DRAFT ENVIRONMENTAL IMPACT REPORT

FIRST AND HOWARD STREETS PROJECT

San Francisco Planning Department

98.902E

STATE CLEARINGHOUSE NO. 99032088

DRAFT EIR PUBLICATION DATE: SEPTEMBER 11, 1999

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SEPTEMBER 11, 1999 TO OCTOBER 26, 1999

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DATE: September 11, 1999

TO: Distribution List for the First and Howard Project Draft EIR

FROM: Hillary Gitelman, Environmental Review Officer

SUBJECT: Request for the Final Environmental Impact Report for the First and Howard Streets Project (Planning Department File No. 98.902E)

This is the Draft of the Environmental Impact Report (EIR) for the First and Howard Streets Project. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, our office will prepare and publish a document titled "Summary of Comments and Responses" that will contain a summary of all relevant comments on this Draft EIR and our responses to those comments. It may also specify changes to this Draft EIR. Those who testify at the hearing on the Draft EIR will automatically receive a copy of the Comments and Responses document, along with notice of the date reserved for certification; others may receive such copies and notice on request or by visiting our office. This Draft EIR together with the Summary of Comments and Responses document will be considered by the City Planning Commission in an advertised public meeting and certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Comments and Responses document and print both documents in a single publication called the Final EIR. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one, rather than two, documents. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Summary of Comments and Responses have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to private individuals only if they request them. If you would like a copy of the Final EIR, therefore, please fill out and mail the postcard provided inside the back cover to the Major Environmental Analysis Office of the Planning Department within two weeks after certification of the EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR.

Thank you for your interest in this project.

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First and Howard Streets Project
Draft Environmental Impact Report

TABLE OF CONTENTS

Page

I. SUMMARY 1

II. PROJECT DESCRIPTION 30
- A. Project Objectives 30
- B. Project Location 31
- C. Project Characteristics 33
- D. Project Schedule and Approvals Required 44

III. ENVIRONMENTAL SETTING AND IMPACTS 47
- A. Land Use, Zoning and Plan Consistency 47
- B. Visual Quality/Urban Design 62
- C. Shadows and Wind 71
- D. Transportation 88
- E. Air Quality 127
- F. Historic Architectural Resources 138
- G. Growth Inducement 151

IV. MITIGATION MEASURES PROPOSED TO MINIMIZE POTENTIAL ADVERSE IMPACTS OF THE PROJECT 154

V. OTHER CEQA CONSIDERATIONS 164
- A. Significant Environmental Effects That Cannot Be Avoided if the Proposed Project Is Implemented 164
- B. Significant Irreversible Environmental Changes Which Would Be Involved in the Proposed Action Should It Be Implemented 165

VI. ALTERNATIVES TO THE PROPOSED PROJECT 167
- A. Alternative A: No Project 167
- B. Alternative B: Base FAR/No Exceptions 168
- C. Alternative C: Preservation Alternative 172
- D. Alternative D: Reduced Development Alternative 176

VII. DRAFT EIR DISTRIBUTION LIST 181

VIII. REPORT PREPARERS; ORGANIZATIONS AND INDIVIDUALS CONSULTED 191

APPENDICES

A. Notice of Preparation/Initial Study/EIR Requirement A.1
B. Wind B.1
C. Transportation C.1
D. Air Quality D.1

LIST OF FIGURES

1. Project Location 32
2. Conceptual Site Plan 35
3. Oblique Aerial Visual Simulations 37
4. Building 1, Natoma Street Elevation 39
5. Building 2, Howard Street Elevation 40
6. Building 3, Howard Street Elevation 42
7. Building 4, Natoma Street Elevation 43
8. Existing Land Use in Project Vicinity 48
9. Existing Zoning Districts in Project Vicinity 51
10. Existing Height and Bulk Districts in Project Vicinity 53
11. Viewpoint Locations 63
12. View 1, Looking East From Howard Street Near Second Street 64
13. View 2, Looking West From Howard Street From East of Fremont Street 65
14. View 3, Looking North From First Street Near Tehama Street 67
15. View 4, Looking North From First Street Near Harrision Street 68
16. Shadow Patterns - December 21 (10 a.m., Noon, 3 p.m. PST) 73
17. Shadow Patterns - March 21 (10 a.m., Noon, 3 p.m. PST) 74
18. Shadow Patterns - June 21 (10 a.m., Noon, 3 p.m. PDT) 75
19. Shadow Patterns - September 21 (10 a.m., Noon, 3 p.m. PDT) 76
20. Wind Study Measurement Locations 83
21. Transportation Study Area 89
22. Existing Transit Network 94
23. Alternative C, Preservation Alternative, Oblique Visual Simulation Viewed from Southeast 174
B-1 Boundary Layer Wind Tunnel B.3
B-2 Boundary Layer Wind Tunnel Configuration B.4
B-3 Wind Study Measurement Locations B.11
B-4 Interior Wind Study Measurement Locations, Preservation Alternative (Locations 33 and 34) B.13
C-1 Walkway Levels of Service C.4
C-2 San Francisco Transit Screenlines C.5

LIST OF TABLES

1 Project Space Allotment 36
2 Streets Adjacent to Project Site 91
3 Project Peak-Hour Travel Mode 101
4 Intersection Levels of Service 103
5 Project Loading Supply and Demand 112
6 Cumulative Parking Demand and Supply 120
7 Bay Area Criteria Pollutant Emissions Inventory and Projections 130
8 Estimated Vehicular Emissions from Project-Related Traffic 134
9 Local CO Concentrations at Selected Intersections 136
10 Alternative B Parking Space Distribution 170
11 Alternative D Land Use and Parking Space Distribution 177
12 Intersection Levels of Service Alternative D 179
B-1 Seasonal Frequency of Wind Direction and Average Speed B.7
B-2 Wind Speed Exceeded 10% of the Time Between 7:00 a.m. and 6:00 p.m. B.9
C-1 Streets in the First and Howard Streets Project Vicinity. C.1
Signalized Intersection Level of Service Definitions Based on Delay. C.2
Two-way Stop Controlled Intersection Level of Service Definitions. C.3
D-1 Health Effects Summary of the Major Criteria Air Pollutants. D.2
D-2 Federal and State Air Quality Standards. D.3

I. SUMMARY

A. PROJECT DESCRIPTION

The First and Howard Streets project site is located about two blocks south of Market Street and immediately south of the Transbay Transit Terminal. It is midway between San Francisco Bay to the east and the Yerba Buena Center Redevelopment Area to the west of Second Street. It occupies whole or partial blocks forming four corners of the intersection of First and Howard Streets. The proposed project would be a master-planned development of four nine-story office buildings. Development would total 1.12 million square feet (sq. ft.) of office space, 56,000 sq. ft. of ground-floor retail space, and two levels of underground parking in each building with approximately 760 self-park spaces (about 1,230 if valet). The project would create four landscaped plazas of unified design with pedestrian amenities—one at each corner of the First and Howard intersection. The existing building at 231 First Street, a Category I building (historically significant) under Article 11 of the Planning Code, would be retained, renovated and integrated with the proposed buildings. Under the proposed project, Tenny Place and Sloan Alley would be vacated and incorporated into the project site; Tenny Place, located adjacent to 231 First Street, would become an open courtyard with a view of the south side of that building. The project site is approximately 184,800 sq. ft. (about 4.2 acres) in size. This EIR distinguishes the four blocks or corners of the First and Howard intersection by referring to them as "Area 1," "Area 2," "Area 3," and "Area 4," beginning with the northeastern corner and continuing clockwise.

The project site lies entirely within the C-3-O(SD) (Downtown Office-Special Development) zoning district, where development typically consists of corporate headquarters, finance, and other service industries. It also permits retail sales and personal services uses. The district permits a base floor area ratio (FAR) of 6:1, and a maximum FAR of 18:1 with the inclusion of transferable development rights (TDR) subject to height and building bulk limitations.

The project site is well-served by public transit. The adjacent Transbay Terminal serves the East Bay with A-C Transit buses. The site is within two blocks of over 15 San Francisco Municipal Railway (MUNI) bus routes and 5 MUNI Metro lines, the Bay Area Rapid Transit regional commuter rail service located under Market Street, Golden Gate Transit bus service to the North Bay located on Mission Street, and SamTrans bus service to the Peninsula also located on Mission Street.

The project sponsor expects environmental review, project review, and detailed design to be completed by early 2000. Development would occur on a phased basis by Area, and would likely begin by spring 2000. The phasing and pace of development would be dependent on the market and other factors. Construction of each building would take approximately 15 to 18 months.

The project would require Planning Commission action for the following: 1) review under Planning Code Section 309 for compliance with the downtown provisions of the Planning Code and for an exception to the building bulk requirements for Buildings 1 and 2; 2) project authorization under Planning Code Section 322 for office development; 3) Conditional Use authorization under Planning Code Sections 157, 204.5 and 303 for parking space in excess of the maximum 7% of total gross floor area; and 4) Planning Code Section 158 approval for parking garages. Street vacation and a General Plan referral for the vacation of portions of Tenny Place and Sloan Alley would require review and approval by the Department of Public Works and the Board of Supervisors following a determination on conformity with the *San Francisco General Plan* by the Planning Department. The project may also require an exception to loading requirements under Planning Code Section 161(I), as further described in Section III.D, Transportation.

Since each proposed building would exceed the base FAR of 6:1 in the C-3-O(SD) district, the Planning Department would review the building plans for each building to confirm that a proper development rights transfer has occurred pursuant to Planning Code Section 128, prior to permit approval. The project would be reviewed by the Planning Department, the Planning

Commission, and the Board of Supervisors (street vacation) in the context of applicable objectives and policies of the *San Francisco General Plan.*

B. MAIN ENVIRONMENTAL EFFECTS

An application for environmental evaluation for the project was filed December 10, 1998. On the basis of an Initial Study published on March 27, 1999, the San Francisco Planning Department determined that an EIR was required. The Initial Study determined that the following effects of the project would either be insignificant or would be reduced to a less-than-significant level by mitigation measures included in the project, and thus required no further analysis: noise, construction air quality, utilities/public services, biology, geology/topography, water, energy/natural resources, hazards, shadows, and archaeological resources (see Appendix A, p. A.1, for the Initial Study). Therefore, the EIR does not discuss these issues. The Initial Study also found that land use, business displacement, and visual quality/urban design changes would not cause potentially significant environmental effects and require no further analysis, but noted that the EIR would include a discussion of these topics for informational purposes. The Initial Study found the potential for significant environmental effects in the areas of wind, transportation, air quality, and historic architectural resources.

LAND USE, ZONING, AND PLAN CONSISTENCY (p. 47)

The Initial Study found that land use effects would be less than significant, but a discussion is included in the EIR for informational purposes. This proposed development would intensify land use at the project site. However, this increase in density represents an expansion of existing and planned uses. It would be similar to and compatible with existing and planned uses and zoning for the site and the vicinity. The project would change land use at the project site from a mix of light-industrial, office, and surface parking uses, to more intense office space uses with ground-floor retail space, subsurface parking, and open space. The project would extend the Financial District further into the South of Market area, as envisioned in the Downtown Plan in designating the area east of Yerba Buena Center between the Transbay

Terminal and Folsom Street for downtown office use and in establishing this area as a Special Development district (C-3-O (SD)).

The proposed project would demolish the existing structures on site, except the 231 First Street Building, which would be retained, renovated, and integrated in the new project building in Area 2. Demolition would displace approximately nine existing businesses and employees. Space at the site is not now fully used. Many of the existing businesses and employees would be expected to relocate within San Francisco or elsewhere in the Bay Area, and all tenants on the project site have short-term leases and 6-month termination clauses.

"Fritzi of California," a clothing manufacturer, and the largest business on the project site, was recently purchased by Kellwood Company of St. Louis Missouri (December 11, 1998). Kellwood's current business plan involves consolidating West Coast operations at a new facility in the City of Industry in southern California.

VISUAL QUALITY/URBAN DESIGN (p. 62)

The Initial Study found visual quality and urban design effects less than significant, but a discussion is included in this EIR for informational purposes. The proposed project's four nine-story buildings would replace existing vacant lots and one to five story buildings at the site now. It would renovate and incorporate into Building 2 a Category I Significant Building at 231 First Street.

The proposed project would increase the scale of development on the project site; the height and bulk of the proposed buildings would be similar to or less than that of other development in the nearby Financial District. The project's 9-story buildings would be taller than existing 2- to 5-story buildings on the site and shorter than some nearby structures of 25 to 49 stories. Thus, the project would provide a transition in height from the taller buildings to the north near Market Street and the shorter, 1- to 4-story buildings to the south.

The project would not block scenic vistas from public viewing points. The project's public plazas at the four corners of the intersection would be typical of other privately owned, publicly accessible plazas in downtown. The four project buildings and plazas have been designed as a single project, providing a unified design at the projects's four street corners.

SHADOWS AND WIND (p. 71)

The Initial Study found that shadow effects would not be significant because the proposed project would not shade public open space under the jurisdiction of the Recreation and Park Department. However, an assessment of shadow effects on other public spaces is included in the EIR for informational purposes.

Shadows

In general, the project would not cast shadows to the southeast or southwest, but would shade areas to the northeast and northwest. Most shadows would extend approximately one-half block, with the longest shadows cast a little further than one block to the northeast across Beale Street (3:00 p.m., December 21). None of the project shadows would shade the public open space to the northwest (Transbay Terminal and 100 First Street), except for a period around December 21 when a small triangle of net new project shadow would be added to existing shadow on the Transbay Terminal pedestrian entrance in the morning (10 a.m.). Shadows from the project buildings will not reach The Gap headquarters' building open space, Rincon Point Park, the 100 First Street sun terrace or the open space at 221 Main Street between 10:00 a.m. and 3:00 p.m. Project buildings would shade the project's proposed corner plazas at various time of day.

Wind

Increases in wind associated with the project would be greatest on the Howard Street sidewalk in front of Area 3 and near the Fremont Street underpass of the Transbay Terminal. At these locations, winds would increase from 7 to 11 mph and from 5 to 12 mph, respectively. As with existing conditions, the project would not cause exceedances of the 26 mph hazardous wind criterion with the proposed project. With cumulative development, wind at the four new project plazas would not exceed the 7 mph criterion for seating areas. Increases in wind associated with the project plus cumulative development would be greatest on Tehama Street (where increases from 5 mph to 12 mph would occur) and at Fremont and Natoma Streets (where increases from 5 mph to 11 mph would occur). As with the existing conditions and the conditions with the project alone, there would be no exceedances of the 26 mph hazardous wind criterion with the project plus cumulative development. Thus, the proposed project's wind effects would be less than significant.

TRANSPORTATION (p. 88)

The project site is located in an area with substantial traffic congestion during the p.m. peak period as vehicles travel to the Bay Bridge on-ramps at First and Harrison Streets, two blocks south of the site. The site is readily accessible by public transit. Transportation impacts of the proposed project were analyzed by comparing existing conditions with those estimated to result from project operation. Future cumulative transportation impacts were assessed by considering the project's contribution to reasonably foreseeable growth in travel in 2015, based on the analysis in the *Transbay Redevelopment Area Plan EIR Transportation Study*.

The project would generate about 450 vehicle trips during the p.m. peak hour. Project traffic would cause a significant decline in levels of service (LOS) at the intersection of First and Howard Streets, from LOS E under existing conditions to LOS F. Project traffic would contribute incrementally to existing delays at other intersections in the project area that already experience unacceptable LOS E or F, particularly First and Folsom Streets and First and Harrison Streets. The project would contribute to queues on First Street in the block between Harrison and Folsom Streets, causing the maximum queue to increase from 83% to 100% of the length of the block, with vehicles backed up beyond the intersection of First and Howard Streets, as reflected in the LOS F condition. Vehicles exiting Building 1 to westbound

Natoma Street could block the exclusive bus lane on the east side of First Street while waiting to join the queue, exacerbating the queuing condition and delaying bus operations. Mitigation measures discussed in Section IV.A, Transportation, would reduce this impact to a less-than-significant level.

The project would generate about 1,000 transit trips in the p.m. peak hour; about 47% of those trips would use MUNI either within San Francisco or to access regional transit operators located relatively far from the project site, such as Caltrain or ferries. The project would increase ridership at the four MUNI screenlines surrounding the downtown and vicinity by approximately one to three percent. Ridership crossing all screenlines would be below 100% of capacity, thus remaining within MUNI's service standard. The addition of project-related passengers to regional transit systems would not cause any carrier to exceed its service standard during the p.m. peak. Based on these results, the project transit demand would not cause significant impacts on transit services.

Travel from the project would generate a daily parking demand for about 1,230 spaces; with the existing demand from on-site parking lots that would be displaced, the total parking demand would be about 1,500 spaces. The project would provide about 760 self-park parking spaces, or about 1,233 valet parking spaces; the project would meet the building-generated parking demand if valet parking were provided. There would be a parking shortfall of about 740 spaces with self-park parking, or 270 spaces with valet parking, taking into account the 285 spaces displaced by the project. This shortfall would reduce the availability of unoccupied parking spaces in the area near the project site, resulting in an overall occupancy rate of over 86%. Parking demand in the area near the project site could be accommodated, although parking would approach operational capacity.

Pedestrian activity resulting from the project would not significantly affect service levels on any local crosswalks or sidewalks. Additional pedestrian activity in the west crosswalk at Fremont and Howard Streets in the morning peak period could make it more difficult for vehicles using the Fremont Street off-ramp from the Bay Bridge to turn left onto Howard

Street, and could slow the discharge of carpool passengers, occasionally creating longer backups than currently exist and affecting AC Transit buses on the ramp. Because this is not expected to be a regular occurrence, it is not considered to be a significant conflict with transit service.

Future conditions were analyzed for the year 2015, assuming changes to existing circulation patterns as analyzed in the *Transbay Redevelopment Plan Area Transportation Study*. These assumptions include two-way operation on Folsom Street, an expansion of the Fremont Street off-ramp from the Bay Bridge to provide direct access to Folsom Street, and relocation of the existing exclusive bus lane from First Street to Beale Street. Cumulative traffic in 2015, including that from the project, would increase delays at some intersections in the project area, but others would improve with the assumed circulation changes: First and Howard Streets would improve to LOS C from LOS E under existing-plus-project conditions, and First and Folsom Streets would improve from LOS F to LOS E. The intersection of Fremont and Folsom Streets would degrade from LOS B to LOS F as a result of cumulative growth and the assumed circulation changes, because Folsom Street would have three eastbound lanes instead of the four now available. The intersection of First and Natoma Streets would operate at LOS F in 2015, compared to LOS B under existing-plus-project conditions. If Folsom Street and First Street were to remain in their existing configuration, the intersection of Fremont and Folsom Streets would improve somewhat, from LOS F to LOS E, and the intersection of Howard and First Streets would degrade somewhat from LOS C predicted for 2015.

Projected growth in MUNI ridership by 2015 is expected to exceed the operating capacity for the Northwest, Northeast, and Southwest screenlines, ranging from 105% to 119% of capacity, assuming no increase in operating capacity. The project would contribute less than 2% of the 2015 ridership, and these conditions would occur whether or not the project were built and occupied. BART East Bay and AC Transit p.m. peak hour utilization would both exceed service standards; the project's contribution to regional transit ridership in 2015 would be less than 1% and would not be considered considerable in light of overall cumulative growth.

Several major construction projects are planned or are being considered in the vicinity of the proposed project. These include seismic retrofit of the Bay Bridge, remodel of the Transbay Transit Terminal or construction of an entirely new Terminal building, reconstruction of the Fremont Street off-ramp from the Bay Bridge, and a potential extension of Caltrain to the Transbay Terminal. While some of these projects remain speculative, if some or all were to take place at the same time as construction of the proposed project, temporary cumulative construction impacts could occur. Impacts would not be considered significant, but could be annoying to existing and future tenants and building owners in the project area.

During retrofit of Bay Bridge approaches by Caltrans, up to 1,300 parking spaces would be removed, either permanently or temporarily for about five years; this loss of parking spaces, in combination with parking space loss from expected future development of existing parking lots, would create a substantial parking shortfall of about 1,270 spaces. While this shortfall would not be a significant impact, it could cause queues to form at entrances to parking facilities, disrupting localized traffic circulation. Parking shortfalls also generally cause drivers to shift from drive-alone to carpooling and transit use, and some drivers would change their travel times, reducing parking demand and related queues. The City and Caltrans are preparing a traffic management plan for the retrofit project.

Changes in pedestrian or bicycle travel would not result in significant project-specific or cumulative impacts.

A number of projects are under construction, approved, or under review by the City in the Transbay Area near the project site. While all of this growth is accounted for in the analysis of cumulative conditions in 2015, associated impacts may occur in advance of that timeframe if most or all of these projects moved forward. Therefore, an additional interim year analysis was performed. In general, interim year intersection conditions would be worse than existing and existing-plus-project conditions, but somewhat better than future 2015 conditions. All transit services would have capacity to accommodate interim year growth except BART to the East Bay, where a planned capacity increase might not yet be available. Cumulative impacts to

BART in the interim year would be temporary and the project's contribution would not be considerable, and therefore would not be significant. Parking shortfalls would be greater than predicted for 2015 due to Bay Bridge construction. The project would not contribute considerably to this parking shortfall, as it would essentially meet its own parking demand with valet parking.

AIR QUALITY (p. 127)

The additional 5,050 vehicle trips per day associated with the proposed development would generate approximately 99 lb/day of ROG, 109 lb/day of NO_x, and 23 lb/day of PM_{10}, and would exceed the BAAQMD's significance thresholds for ROG and NO_x. Since the actual effectiveness of mitigation measures (e.g., trip reduction measures) is difficult to predict, vehicular emissions are considered an unavoidable significant air quality impact.

Vehicular emissions of CO associated with the project would exceed the BAAQMD analysis threshold of 550 pounds per day, and nearby intersections having a Level of Service (LOS) of D, E or F with project contributions were analyzed for localized CO "hot-spots." Congestion at the intersections of First and Howard Streets, First and Folsom Streets, Fremont and Folsom Streets, and First and Harrison Streets would generate maximum roadside concentrations of approximately 13 ppm of CO on a one-hour basis and 8.7 ppm of CO on an eight-hour basis. These concentrations would not exceed state or federal CO standards. Therefore, the proposed project would not create significant CO impacts at local intersections.

The San Francisco Bay Area Air Basin is a nonattainment area for ozone. Emissions of ROG and NO_x contribute to cumulative regional increases in ozone levels. Because the project individually would be expected to have an unavoidable significant impact on regional emissions, the project would also be considered to contribute significantly to cumulative air quality impacts.

HISTORIC ARCHITECTURAL RESOURCES (p. 138)

Two buildings on the project site, 231 First Street and 401 Howard Street, have been determined by the State Historic Preservation Officer (SHPO) to be eligible for individual listing on the National Register as a result of a consultation under a federal program. In addition, the SHPO determined that 218 Fremont Street may become eligible with additional research on the building's context. Only 231 First Street is listed in Planning Code Article 11.

The proposed project would demolish 18 of 19 existing buildings and would remove surface parking on the project site. 231 First Street would be retained and rehabilitated for retail use as part of the proposed project. The project sponsor would be required to use rehabilitation techniques that are appropriate for the building via the Planning Commission (and Landmarks Preservation Advisory Board) review of any proposed changes under Article 11 of the Planning Code. Thus, the project would not cause a substantial adverse change to the structure.

401 Howard Street, the H.N. Cook Belting Company building, is not identified in local surveys or lists as a significant historic resource; however, the structure was included in architectural evaluations in 1983, 1994, and 1996. The State Office of Historic Preservation determined that the structure is individually eligible for listing on the National Register (in concurrence with the 1996 report). 401 Howard Street is therefore listed on the California Register of Historical Resources and is considered an historic resource under CEQA, and demolition of the structure as proposed by the project would be considered a significant adverse effect.

In 1997, the SHPO determined that the building at 218 Fremont Street may become eligible for the National Register as a separate property based on the findings of the *Caltrain San Francisco Downtown Extension Project* Historic Property Survey Report. As a result of this determination, the building is "deemed significant" pursuant to CEQA Section 21084.1 and

Public Resources Code Section 5024.1(g); thus the demolition of 218 Fremont Street would be considered a significant adverse effect on historic resources.

Other buildings on the site represent a group of early 20th-century buildings that are not architecturally significant. They are not considered eligible for listing on the National Register nor do they meet the definition of an historical resource as set forth in CEQA Section 21084.1.

GROWTH INDUCEMENT (p. 151)

The project would construct 1,120,000 gross square feet of office space and 56,000 gross square feet of retail space for food services, business services, and other incidental and support uses. After demolition, the net gain of new development would be approximately 901,000 gross square feet. The project would not construct housing nor would it displace existing housing. Space at the site is not now fully used. Demolition of existing buildings on site would displace approximately nine existing businesses and some existing employees. Employment at the site would increase to a total of about 4,200.

New downtown workers would increase the demand for housing in San Francisco and in other parts of the Bay Area. The project would contribute to housing construction in the City by meeting the City's Office Affordable Housing Production Program (OAHPP) (see Appendix A, Initial Study, p. A-13). The project would be built in a developed urban area, and no expansion of municipal infrastructure not already under consideration would be required to serve the project.

C. MITIGATION MEASURES (p. 154)

Mitigation measures identified in this EIR or in the Initial Study (those from the Initial Study are identified by a *) as necessary to mitigate significant environmental effects are listed below. Mitigation measures would reduce but not eliminate significant historic architectural resources, transportation (project and cumulative), and air quality (project and cumulative) impacts.

TRANSPORTATION

Some measures that assist in reducing the number of p.m. peak period vehicle trips and enhance transit facilities are included in City ordinances and are applicable to the proposed project. Section 163 of the Planning Code requires that project sponsors of new office buildings in the C-3 Districts prepare a transportation management program (TMP) to be implemented by the Transportation Broker. The TMP must provide transit information to tenants and their employees, provide for on-site sale of transit passes and debit cards (such as BART tickets), coordinate ridesharing activities for tenants and their employees, promote coordinated flex-time or staggered work hours to more evenly distribute the arrival and departure times of tenant employees, and carry out other activities determined by the Planning Department to be appropriate to meet the intent of minimizing the transportation impacts of added office employees in the downtown area. Other provisions of the Planning Code require that parking rates be designed to discourage use by commuters, that preferential parking be provided for vanpools and carpools, and that secure bicycle parking with lockers and showers be provided. Mitigation measures to further reduce p.m. peak period vehicle trips include:

1. As required by the Planning Code, prepare and implement a Transportation Management Program. The TMP shall include, but not be limited to features such as:

    a. A prohibition on daily, weekly or monthly discounted parking rates

    b. A marketing program for commute alternatives with enough variety to appeal to differing needs of employees of different firms in the building, including features such as employee information packets; regular distribution throughout the project buildings of information on transportation system changes, such as new or changed transit routes; and regular distribution of information promoting use of public transit, ridesharing, and flextime.

    c. A requirement that large employers within the project buildings either provide for their employees to set aside pre-tax funds for transit expenses under Section

125 of the Internal Revenue Code, or provide subsidized transit passes and transit debit cards to building employees.

d. A casual carpool pickup location within or adjacent to Building 2, augmenting the existing evening carpool pickup location on Beale Street several blocks from the project site.

2. As noted above, as a part of the requirements of Section 163 of the Planning Code, a TMP is required to be developed by the project sponsor and approved by the Director of Planning. Based on Planning Department guidance as contained in *Transportation Management Programs in Greater Downtown - Developer's Manual for Procedures and Performance Criteria* (January 1988), the project's TMP would include a project-specific numerical goal for reducing commute travel by single occupancy vehicles. This numerical goal shall be set at a level which acknowledges the project's proximity to substantial transit services. At a minimum, the goal shall be set at a level that would require commuters to/from the project site to achieve a lower percentage use of single-occupant vehicles than the average percentage by workers in buildings in the C-3 district of San Francisco with Section 163 Transportation Management Programs.

3. Implement a parking rate structure at project garages which is both consistent with San Francisco Planning Code Section 155 and other permit approval and Planning Code requirements, and also provides a financial disincentive for vehicles to exit the garages during the p.m. peak period of congestion (4:30 to 6:30). The peak period financial disincentive for vehicles parking more than four hours and leaving during the peak period shall be no less than a surcharge equal to the public rate for one hour of parking in the same garage.

4. During peak times of congestion such as holidays or major events at the Moscone Convention Center and/or Pacific Bell Ballpark at China Basin, station Parking Control Officers at congested intersections to direct traffic and ensure pedestrian safety.

5. To mitigate impacts to vehicles using the left lane of First Street between Howard and Folsom Streets which exacerbates the queue on First Street and the unacceptable LOS at First and Howard Streets, open a driveway onto Howard Street, in Building 2, to be used exclusively during the p.m. peak period.

The additional driveway would reduce or eliminate the possibility of motorists blocking the left-hand lane of First Street when exiting Building 2 and attempting to join the queue leading to the Bay Bridge on-ramp, and would reduce the number of project-related vehicles using the First and Folsom Streets intersection. It would add some additional traffic to the First and Howard Streets intersection, and could extend the queue of vehicles in the left lanes of

Howard Street waiting to turn onto First Street to joint the queue for the Bridge ramp, but would not cause that queue to extend beyond the Fremont and Howard Streets intersection. This measure would cause substantial changes in the design of Building 2, and would reduce the amount of ground floor retail space in this building because the loading entrance/exit and a parking entrance/exit would remain on First Street as proposed. With this measure it would not be possible to provide the unified design proposed in the project, as Building 2 would have a vehicle exit at some location relatively close to the corner open space at First and Howard Streets. Provision of a vehicle exit near the Howard and Fremont Streets intersection would interfere with morning carpool drop-off activity and provision of the exit in the center of the block face would interfere with the proposed interior courtyard on the ground floor of the building.

Acknowledging disadvantages of this measure, the City and the project sponsor have been investigating other options to reduce impacts on First Street. Options could involve exits on First Street or on Fremont Street to be used during the p.m. peak period. Each of these options has advantages and disadvantages, and the Department of Parking and Traffic staff have expressed some concerns about egress from these locations. A substitute measure or measures could be adopted by the decision makers in public hearing(s) as part of their actions on the project, if decision makers find that the substitute measure or measures are equivalent to or more effective than this measure and that the substitute measure or measures cause no new significant environmental impacts.

6. Convert Natoma Street to two-way operation between Fremont and First Streets.

This measure would reduce or eliminate the impact of project traffic on the exclusive bus lane on First Street between Mission and Howard Streets. Existing on-street parking on Natoma Street would need to be removed for this measure, which would result in increased competition for on-street parking in the area, but not by a significant amount. The change to two-way operation would add traffic to Fremont Street north of Howard Street. Fremont Street operates with relatively free flow conditions in the afternoon because it leads away from freeway ramps in the South of Market area; therefore, additional project traffic would not cause unacceptable service levels.

AIR QUALITY

Transportation mitigation measures discussed above in Section A, Transportation Mitigation Measures, would reduce the project's contribution to significant regional air quality impacts insofar as the measures reduced the vehicle miles traveled from the project. Mitigation measures proposed as part of the project include the following measures:

7. Provide preferential parking for alternative fuel vehicles.

*8. The project sponsor would require its contractors to implement as appropriate the BAAQMD's guidelines on basic control measures for emissions of dust during construction: (1) water all active construction areas at least twice daily; (2) cover all trucks hauling soil, sand, and other loose materials or require trucks to maintain at least two feet of freeboard; (3) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas; (4) sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas; and (5) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

NOISE

Mitigation measures proposed as part of the project include the following measures:

*9. If pile driving is necessary to install pile foundations, the project sponsor would require construction contractors to predrill holes to the maximum depth feasible on the basis of soil conditions. Contractors would be required to use construction equipment with state-of-the-art noise shielding and muffling devices. The project sponsor would also require that contractors schedule pile driving activity for times of the day that would be consistent with the Noise Ordinance.

GEOLOGY / TOPOGRAPHY

Mitigation measures proposed as part of the project include the following measures:

*10. The project sponsor would ensure that the construction contractor conducts a pre-construction survey of existing conditions and monitors any adjacent buildings for damage during construction, if recommended by the geotechnical engineer, in the foundation investigations.

*11. If dewatering were necessary, the final foundation report would address the potential settlement and subsidence impacts of this dewatering. Based on this discussion, the foundation report would determine whether or not a lateral movement and settlement survey would be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey were recommended, the Department of Building Inspection would require that a Special Inspector (as defined in Article 3 of the San Francisco Building Code) be retained by the project sponsor to perform this monitoring. Instruments would be used to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable movement were to occur during construction, groundwater recharge would be used to halt this settlement. The project sponsor would delay construction if necessary. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor.

If dewatering were necessary, the project sponsor and its contractor would follow the geotechnical engineers' recommendations regarding dewatering to avoid settlement of adjacent streets, utilities, and buildings that could potentially occur as a result of dewatering.

*12. The project sponsor and its contractor would follow the geotechnical engineers' recommendations regarding installation of settlement markers around the perimeter of shoring to monitor any ground movements outside of the shoring itself. Shoring systems would be modified as necessary in the event that substantial movements are detected.

WATER QUALITY

Project sponsor would ensure that groundwater from site dewatering and stormwater runoff meets the discharge limitations of the City's Industrial Waste Ordinance by carrying out the following measures, proposed as part of the project:

*13. If dewatering were necessary, the project sponsor would follow the recommendations of the geotechnical engineer or environmental remediation consultant, in consultation with the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission, regarding treatment, if any, of pumped groundwater prior to discharge to the combined sewer system.

If dewatering were necessary, groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission to reduce the amount of sediment entering the combined sewer system.

*14. The project sponsor would require the general contractor to install and maintain sediment traps in local storm water intakes during construction to reduce the amount of sediment entering the combined sewer system, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission.

HAZARDS

Mitigation measures proposed as part of the project include the following measures:

*15. In addition to local, state and federal requirements for handling soil and groundwater containing designated levels of chemicals, the project sponsor would enter into a voluntary remedial action agreement with the Department of Public Health pursuant to Health and Safety Code Section 101480 et seq. At a minimum, the project sponsor would undertake the following work and any additional requirements imposed by the Department of Public Health under the agreement.

a. A Phase I Environmental Site Assessment would be prepared for any portion of the project site for which a Phase I assessment has not already been completed (i.e., 224 and 236 Fremont Street, Assessor's Block 3737, lot 3). The investigation would list current and past uses of the lot, review environmental agency databases and records, report site reconnaissance observations, and summarize potential contamination issues, including any that warrant further investigation. The assessment would be completed by a Registered Environmental Assessor (REA) or a similarly qualified individual prior to initiating any earth-moving activities at the affected portion of the project site.

One or more Phase II Environmental Site Assessments would be prepared for areas of the project site not subject to San Francisco's Maher Ordinance. (This measure is required by law for areas subject to the Maher Ordinance.) On the basis of historical uses and the conclusions of the Phase I Environmental Site Assessments, soil or groundwater samples, or both, would be collected throughout the project site as directed by the site assessment consultant. Sampling would extend at least to depths proposed for excavation. The samples would be analyzed to identify and quantify any contamination. These studies would be completed by an REA or a similarly qualified individual prior to initiating any earth-moving activities at the site.

If findings in the Phase I and Phase II reports result in the preparation of a Site Safety and Health Plan, in addition to measures that protect on-site workers, the Plan would include measures to minimize public exposure to contaminated soils. Such measures would include dust control, appropriate site security, restriction of public access, and posting of warning signs, and would apply from the time of surface disruption through the completion of earthwork construction.

b.. Prior to any demolition or excavation at the project site, surveys would be conducted to identify any potentially hazardous materials in existing buildings or building materials. At a minimum, these surveys would identify any asbestos, polychlorinated biphenyls, lead, mercury, or other hazardous materials that would require removal and disposal before demolition. Wherever former site uses or site reconnaissance observations reported in the Phase I Environmental Site Assessments suggest the potential for underground storage tanks or related piping to be present, magnetic surveys or other appropriate surveys would be conducted to locate underground storage tanks. If any are identified, the San Francisco Department of Public Health would determine whether they must be removed or whether they may be closed in place. These surveys would be completed by an REA or a similarly qualified individual.

c. All reports and plans prepared in accordance with Mitigation Measure No. 8 would be provided to the San Francisco Department of Public Health and any other agencies identified by the Department of Public Health. When all hazardous materials have been removed from existing buildings, and soil and groundwater analysis and other activities have been completed, as appropriate, the project sponsor would submit to the San Francisco Planning Department and the San Francisco Department of Public Health (and any other agencies identified by the Department of Public Health) a report stating that the mitigation measure has been implemented. The report would describe the steps taken to comply with the mitigation measure and include all verifying documentation. The report would be certified by an REA or a similarly qualified individual who states that all necessary mitigation measures have been implemented.

CULTURAL RESOURCES

16. Prior to the demolition of 401 Howard Street and 218 Fremont Street, prepare historic documentation, similar to Historic American Buildings Survey (HABS) recordation standards, which would include the following:

    - A HABS-type outline report on the buildings including descriptive and historical information.

    - Photographic documentation of the exteriors of the buildings. Such documentation would be provided to HABS standards of detail and quality for photographic documentation in 4x5 or 5x7 photographs and negatives.

    - An appropriately conserved set of architectural drawings of each building, if any are available.

    Copies of the outline report and narratives, photographic documentation, and any available architectural drawings of the buildings shall be submitted to the City and County of San Francisco Planning Department prior to authorization of any permit that may be required for demolition of the buildings.

    In addition, the project sponsor would prepare and transmit the photographs and descriptions of the buildings to the History Room of the San Francisco Public Library and the Northwest Information Center of the California Historical Information Resource System.

The measure would reduce the adverse effect of demolition of the buildings, but the loss of the buildings would still be considered a significant impact.

*17. Given the location and depth of excavation proposed, and the likelihood that archaeological resources would be encountered on the project site, the sponsor has agreed to retain the services of an archaeologist. The archaeologist would conduct a pre-excavation testing program to better determine the probability of finding cultural and historical remains. The testing program would use a series of mechanical, exploratory borings or trenches or other testing methods determined by the archaeologist to be appropriate.

If, after testing, the archaeologist determines that no further investigations or precautions are necessary to safeguard potentially significant archaeological resources, the archaeologist would submit a written report to the Environmental Review Officer, with a copy to the project sponsor. If the archaeologist determines that further investigations or precautions are necessary, he or she would consult with the Environmental Review Officer, and they would jointly determine what additional procedures are necessary to minimize potential effects on archaeological resources.

These additional measures would be implemented by the project sponsor and could include a program of on-site monitoring of all site excavation, during which the archaeologist would record observations in a permanent log. The monitoring program, whether or not there are findings of significance, would result in a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor. During the monitoring program, the project sponsor would designate one individual on site as its representative. This representative would have the authority to suspend work at the site to give the archaeologist time to investigate and evaluate archaeological resources if they are encountered.

If evidence of cultural resources of potential significance were found during the monitoring program, the archaeologist would immediately notify the Environmental Review Officer, and the project sponsor would halt any activities that the archaeologist and the Environmental Review Officer jointly determine could damage such cultural resources. Ground disturbing activities that could damage cultural resources would be suspended for a total maximum of four weeks over the course of construction of each building.

After notifying the Environmental Review Officer, the archaeologist would prepare a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor, which would contain an assessment of the potential significance of the find and recommendations for what measure should be implemented to minimize potential effects on archaeological resources. Based on this report, the Environmental Review Officer would recommend specific additional measures to be implemented by the project sponsor. These additional measures could include a site security program, additional on-site investigations by the archaeologist, or documentation, preservation, and recovery of cultural material.

Finally, the archaeologist would prepare a report documenting the cultural resources that were discovered, an evaluation as to their significance, and a description as to how any archaeological testing, exploration or recovery program is to be conducted.

Copies of all draft reports prepared according to this mitigation measure would be sent first and directly to the Environmental Review Officer for review. Following approval by the Environmental Review Officer, copies of the final reports would be sent by the archaeologist directly to the President of the Landmarks Preservation Advisory Board and the California Archaeological Site Survey Northwest Information Center. Three copies of the final archaeology reports would be submitted to the Environmental Review Officer, accompanied by copies of the transmittals documenting its distribution.

D. ALTERNATIVES (p. 167)

In compliance with CEQA requirements this EIR analyzes a reasonable range of project alternatives that would reduce or eliminate significant impacts of the project. These alternatives include: a No-Project Alternative; a Base FAR/No Exception Development Alternative; a Preservation Alternative; and a Reduced Development Alternative. No alternative sites have been identified where the project could be constructed and meet most of the project sponsors' objectives and where the project's environmental effects would be reduced to less than significant or eliminated.

Project decision-makers must approve an alternative instead of the proposed project, if that alternative would reduce or eliminate significant impacts of the project and is determined to be feasible. The determination of feasibility will be made by City decision makers on the basis of substantial evidence in the record, which will include, but not be limited to, information presented in the EIR and in comments received on the Draft EIR.

ALTERNATIVE A: NO PROJECT (p. 167)

If the No-Project Alternative were implemented, none of the impacts associated with the project would occur. With or without the proposed project, Fritzi of California would no longer retain its operations on Area 1 or Area 2 and the Fritzi of California buildings would become vacant in year 2000, unless other businesses leased the property for their own uses. The architecturally significant building at 231 First Street would not be renovated and reused. By 2015 without the project, cumulative growth at other locations in downtown would create substantial increases in commute travel, causing significant transportation impacts similar to those described in Section III.D, Transportation.

ALTERNATIVE B: BASE FAR/NO EXCEPTIONS (p. 168)

The Base FAR/No Exceptions Alternative would include all of the same land uses as the proposed project. Alternative B would include demolition of the existing buildings on the project site except the building at 231 First Street, which would be retained and renovated. This alternative includes development of Area 1 at the base FAR of 6:1 (without the use of transferred development rights), and development of all project buildings with parking as an accessory use (a maximum of 7% of gross floor area). In this alternative, Area 1 would be developed with 272,250 sq. ft. of office space, a decrease of about 11,000 sq. ft. compared to 283,000 sq. ft. of office space proposed by the project in Area 1. Development on the project site in Alternative B would include a total of about 1,109,2050 sq. ft of office space. compared to the proposed project's 1,120,000 sq. ft. Alternative B would include a maximum of 7% of total gross floor area devoted to parking, while the project proposes approximately 22%. With total development of 1,165,250 sq. ft., total parking area would equal about 81,570 sq. ft. With valet parking, Alternative B would have about 380 parking spaces, about 850 fewer spaces than the proposed project with valet parking.

With this alternative, no exceptions from the Planning Code would be needed for building bulk or number of loading spaces, and no conditional use authorization would be needed for parking in excess of 7% of gross floor area. No transferable development rights would be included in this alternative. Approval of a street vacation of Tenny Place and Sloan Alley would continue to be required.

This alternative would include demolition of all existing structures except the building at 231 First Street and, like the project, would have a significant effect on historic resources due to the demolition of buildings at 218 Fremont Street and 401 Howard Street. Overall, land use conditions, urban design, or visual quality, shadow and wind effects from Alternative B would be substantially the same as those analyzed for the proposed project. Traffic and transit impacts would be essentially the same as those described for the proposed project, because the reduction in building space (11,000 sf) would not be large enough to create substantial reductions in trip generation from the project site. Alternative B would contribute to significant project-specific and cumulative traffic impacts in the future at a similar level to the project's contribution. Air quality impacts from traffic generated by development under

Alternative B would be similar to those described for the proposed project and would remain significant environmental impacts.

Alternative B would create a parking shortfall, about 1,265 spaces, or about 525 more than would the project, assuming self-park spaces (the shortfall would be about 1,120 spaces, or about 850 more than the project with valet parking). The parking study area occupancy would increase from 81% to about 94%; at 95% occupancy, most facilities in the area would operate at capacity and available parking spaces would be very difficult to locate. Constrained parking could provide less incentive to drive to the project site, contributing to a shift to carpool and transit use with a related reduction in traffic and air quality effects.

ALTERNATIVE C: PRESERVATION ALTERNATIVE (p. 172)

The Preservation Alternative would redesign Building 2 to incorporate 231 First Street, 218 Fremont Street, and 401 Howard Street in a way that would preserve these historic architectural resources, while maintaining overall project development at about 1,120,000 sq. ft. of office and 56,000 sq. ft. of retail space. The number of parking and loading spaces and the use of transferable development rights would remain the same as for the proposed project. This alternative would result in the same floor area and building designs for Buildings 1, 3, and 4 as the proposed project, but would result in a taller building with a different design and form in Area 2. The open space in Area 2 at the corner of First and Howard Streets under the proposed project would not be included in this Alternative because that portion of Area 2 would be needed for a portion of the building.

All approvals required for Alternative C would be the same as those required for the proposed project, except that the tower at the southeast corner of First and Howard on Area 2 would require an exception to the bulk limits. Setbacks would be required for development above 103 feet for the lower tower.

Land use changes with Alternative C would be the same as those described for the proposed project, with increased density of office and retail space replacing the existing office, retail, warehouse and commercial space. This alternative would require an exception to bulk limits for the lower tower in Area 2 for the portion of the building at the First and Howard Streets corner.

While Alternative C would alter the existing visual character of the project site, the changes would be similar to those described for the proposed project and would not be considered a significant adverse effect on visual quality. However, Building 2 would incorporate the preservation of 231 First Street, 401 Howard Street, and 218 Fremont Street and would include twin office towers rising to a full height of about 200 feet, above a terraced base ranging in height from about 30 to 187 feet. Alternative C would be taller than the existing buildings on the project site and the proposed project but would not be taller than high-rise development near the project site, such as 199 Fremont, 524 Howard or the Century residential tower on Natoma Street.

Although the length of shading from the northwest and southeast corners of Building 2 would increase by about 30% under the preservation alternative, as with the project, this alternative's shadows would not shade open space under the jurisdiction of the Recreation and Park Department. During the winter, morning shadows would not add more shadow to the plaza in front of the Transbay Terminal as would the project.

The pedestrian comfort criterion of 11 mph would not be exceeded on sidewalks adjacent to Building 2, although wind speeds would average two to four mph higher on both the First Street and Howard Street sidewalks than were shown for the proposed project. As with the project, Alternative C would remove the existing comfort criterion exceedance on the east side of Fremont Street south of its intersection with Howard Street. This alternative would not cause any hazardous wind conditions, as described for the proposed project, and therefore no significant wind impacts would be expected.

Transportation and air quality impacts would be the same as those discussed for the proposed project.

ALTERNATIVE D: REDUCED DEVELOPMENT ALTERNATIVE (p. 176)

The Reduced Development Alternative would substantially reduce the office floor area to about 768,000 gsf from 1.2 million gsf under the proposed project and retail floor area to about 38,360 gsf from the project's 56,000 gsf. This reduction in floor area would reduce associated vehicle trips, and the Reduced Development Alternative would meet the Bay Area Air Quality Management District significance threshold of 80 pounds per day for NO_x, PM_{10}, and reactive organic compounds.

Under this Alternative, building forms could be similar to the proposed project, with about two to three floors removed from each building. The general configuration of the urban plaza proposed at the First and Howard Streets intersection would remain as proposed; however, the amount of open space required under the Planning Code would be less for Alternative D, so each corner plaza would be smaller than that proposed for the project, within the building bulk limits for the project site. Tenny Place and Sloan Alley would be vacated in Alternative D, as for the proposed project. Parking and loading access would remain the same as for the proposed project. The number of parking spaces would be reduced proportionally to the reduction in building space, and therefore would continue to exceed the Planning Code limit of 7% of gross floor area, requiring conditional use authorization. Approvals required for Alternative D would be the same as those for the proposed project. Building 1 would no longer exceed the base 6:1 FAR and no transferable development rights would be purchased for excess office space.

Alternative D would include demolition of all existing structures except for 231 First Street, and would develop the site with office and ground-floor retail uses more intensely than now exists at the site, as with the proposed project. Development density would be less than with the proposed project, but greater than existing density. Thus, land use effects from

Alternative D would be similar to those described for the proposed project. Urban design and visual impacts would be similar to those described for the proposed project, depending on the ultimate design chosen for the lesser amount of space in this alternative. It is expected that buildings would be five to seven stories tall, rather than the nine stories proposed in the project design.

Wind effects would be about the same as those described for the proposed project and would not be significant. The Reduced Development Alternative, with buildings of about five to seven stories tall, would reduce the length of shading by about 25 to 30% compared to the project, and, as with the project, would not reach open space under the jurisdiction of the Recreation and Park Department, or other open space nearby at any time of the year. This alternative would avoid the project's shading of the public space at the entrance to the Transbay Terminal during the winter. Impacts to historic architectural resources would be the same as described for the proposed project.

Alternative D would generate about 30% fewer daily and p.m. peak hour person trips. The smaller number of vehicle trips would cause slightly less delay at nearby intersections. LOS at the study intersections would remain the same as under the existing-plus-project scenario except at the intersections of First and Howard Streets and First and Natoma Streets. First and Howard Streets would operate at LOS E, the same as under existing conditions, and thus would not have the project-specific significant effect of the proposed project. The westbound approach to the First and Natoma Streets intersection, from Building 1, would deteriorate from LOS D to LOS E rather than LOS F with the project. However, the overall LOS at the intersection of First and Natoma Streets would remain A, as under existing conditions. Alternative D would not cause conditions at existing intersections to deteriorate from acceptable to unacceptable LOS. Driveways in Alternative D would operate similarly to driveways in the proposed project, with the driveway at Building 2 experiencing substantial delays exiting onto First Street, and motorists from Buildings 1 and 2 potentially blocking the left lane of First Street as vehicles wait to enter queues for the Bay Bridge on-ramp. This alternative would contribute about 30% less than the proposed project to significant cumulative traffic impacts in 2015.

The addition of trips on MUNI from Alternative D would be slightly less than for the proposed project and would not substantially affect MUNI operations. Parking would be provided in Alternative D in the same reduced ratio as the reduction in office and retail space. Therefore, the alternative would essentially meet its parking demand, similar to the project. Traffic from this alternative would not cause significant regional air emissions, as emissions of NO_x, PM_{10}, and reactive organic gases would be approximately 75 lb/day, 22 lb/day, and 68 lb/day, respectively. These emissions would be less than the BAAQMD thresholds for significant impacts, therefore, no significant project-specific or cumulative air quality impacts would occur.

Alternative D would be the environmentally superior alternative. While this alternative would not reduce significant impacts to historic resources, it would reduce significant project-specific traffic and air quality impacts and would reduce the project contribution to significant cumulative impacts to less than significant levels.

E. UNRESOLVED ISSUES AND AREAS OF CONTROVERSY

The project would be constructed in phases, based on the market demand for the type of office space proposed. Thus, the precise timing of construction and completion of the various building phases has not been determined. It has also not been determined whether City decision-makers will consider individual project authorizations for each building phase or one overall authorization for the project as a whole.

This EIR describes operational impacts associated with the entirety of the project, and describes construction impacts assuming that building phases are roughly consecutive over a period of about five to six years. Furthermore, in keeping with State CEQA Guidelines Section 15004(b) and standard review procedures, this EIR analysis is based on conceptual building designs, which may be refined during the subsequent review and design processes. Design changes are not expected to be of a magnitude that would involve new significant impacts, or necessitate additional environmental analysis. Nonetheless, any proposed changes in design would be subject to review, and to a determination regarding the necessity for additional analysis pursuant to State CEQA Guidelines Section 15162.

Downtown San Francisco is a dense urban center within the heavily populated Bay region. As a result, the area enjoys a higher level of transit service than any other location in the State, and also experiences significant traffic congestion in peak periods (i.e. during "rush hours"). There is also great demand for parking in the area, and parking costs are extremely high. By providing parking on the project site, the proposed project would respond to those who favor increasing the parking supply in Downtown San Francisco and the South of Market area. Provision of parking would also allow more employees and visitors to access the site via private automobile, and could indirectly increase traffic congestion. In considering the proposed project, decision-makers will have to weigh the demand for parking and the potential for increased congestion.

The Metropolitan Transportation Commission, along with the City, Caltrans, and regional transit agencies, are deliberating the future of the Transbay Terminal, which is adjacent to the project site. Although many issues remain to be resolved with regard to the Terminal, and no funding has yet been earmarked for its replacement, it is likely that the Terminal will ultimately be replaced on site. The new terminal would be the location for enhanced local and regional transit connections, and could possibly include a downtown CalTrain station. The adjacent First and Howard Streets project would not preclude the design and implementation of enhanced transportation connections and facilities at this location.

II. PROJECT DESCRIPTION

The project sponsor, Wilson Cornerstone Inc., proposes to construct a master-planned urban office complex consisting of four nine-story office buildings at the intersection of First and Howard Streets. This project would consist of approximately 1.12 million gross square feet (gsf)[1] of office space, 56,000 gsf of ground-floor retail space, and two levels of underground parking in each building (about 760 parking spaces, 1,230 with valet parking). Landscaped plazas of unified design with pedestrian amenities would be provided at all four corners of the First and Howard intersection. The building at 231 First Street, a Category I building (historically significant) under Article 11 of the Planning Code, would be retained, renovated and integrated into one of the new project buildings. Tenny Place and Sloan Alley are proposed to be vacated and incorporated into the project site; Tenny Place, located adjacent to 231 First Street, would become an open courtyard with a view of the south side of the significant historic building.

A. PROJECT OBJECTIVES

According to the Project Sponsor, the First and Howard Streets Project is designed to accommodate the demand for office space including multimedia and technology companies, such as those expanding beyond the borders of "Multimedia Gulch," the district located south of the project site. Prospective tenants are anticipated to be predominantly companies in the software development, multimedia content or technology, financial services, and professional services businesses. The new buildings would address the facility requirements of these technology-intensive firms by providing features such as large floor plates, state-of-the-art building systems and infrastructure, energy efficient designs, flexible space, and adequate on-site parking.

General objectives of the Project Sponsor include the following:

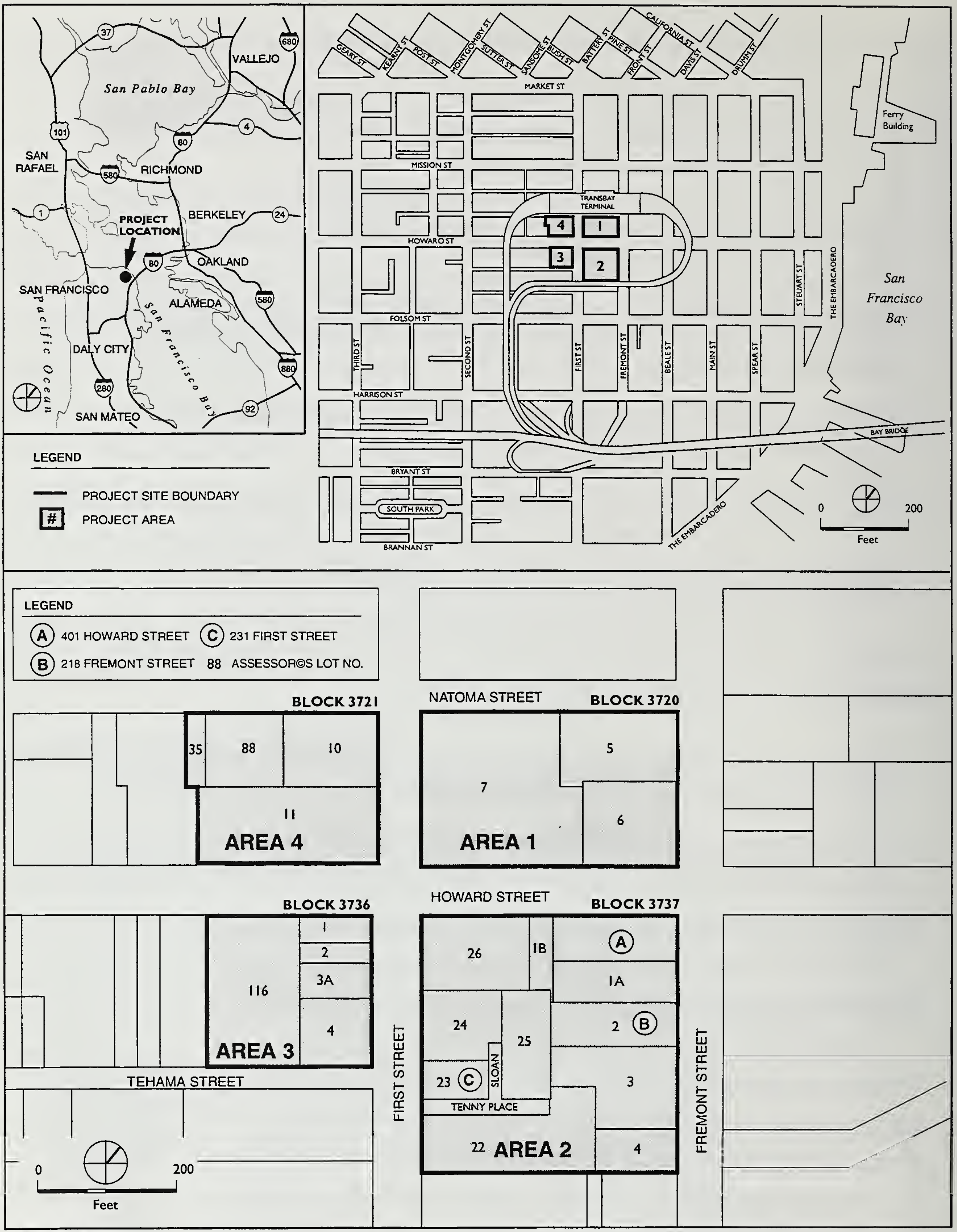
- Assist the City in retaining and expanding the City's resource and employment base, particularly related to software, media, and business and financial services industries, key growth sectors in the local economy.
- Support the City's efforts to enhance the character of the C-3-O district as a national employment and corporate headquarters center.
- Create a high-quality, master-planned project with a consistent theme and identity and unified open space design that takes advantage of the unique four-corner single-owner development opportunity.
- Provide an active and pedestrian-friendly ground-floor environment with attractive, synergistic open spaces and retail opportunities.
- Allow flexibility in development plans to respond to market conditions and other factors.
- Provide adequate on-site parking resources to meet the needs of the project, in consideration of area-wide parking demands and constraints.

To facilitate and achieve balance among the general objectives, the project sponsor has established specific programmatic objectives as follows:

- Design space to meet the real estate needs of technology-intensive companies, including large, flexible, open floor plates, flexible expansion space, and adequate parking;
- Provide approximately 1,120,000 square feet of office and 56,000 square feet of retail uses, with approximately 760 self-park parking spaces (1,230 if valet) on-site; and
- Incorporate in the project approximately 28,000 square feet of open space.

B. PROJECT LOCATION

The First and Howard Streets project site is located about two blocks south of Market Street and immediately south of the Transbay Transit Terminal (Transbay Terminal) (see Figure 1) midway between San Francisco Bay to the east and the Yerba Buena Center Redevelopment Area west of Second Street. It occupies whole or partial blocks forming all four corners of the intersection of First and Howard Streets. The site is approximately 184,800 sq. ft. (about 4.2 acres) in size. This EIR distinguishes the four blocks or corners of the First and Howard



SOURCE: EIP Associates

EIP
ASSOCIATES

FIRST AND HOWARD

FIGURE 1: PROJECT LOCATION

intersection by referring to, and beginning with, the northeastern corner and continuing clockwise, "Area 1," "Area 2," "Area 3," and "Area 4." The project site comprises Lots 5, 6, and 7 of Assessor's Block 3720 (Area 1); Lots 1, 1A, 1B, 2, 3, 4, 22, 23, 24, 25, and 26 of Assessor's Block 3737 (Area 2); Lots 1, 2, 3A, 4, and 116 of Assessor's Block 3736 (Area 3); and Lots 10, 11, 35, and 88 of Assessor's Block 3721 (Area 4). The Fremont Street exit from westbound Interstate 80 (I-80) and the Bay Bridge is immediately south of the project site, parallel to the elevated bus lanes connecting the Transbay Terminal to the Bridge. About two blocks south of the project site is an area known as "Multimedia Gulch" because of the large number of multi-media high-tech firms that have located in this portion of the South of Market Area.

The project site is entirely within the C-3-O(SD) (Downtown Office-Special Development) district. The C-3-O(SD) district is described in Planning Code Section 210.3 as consisting primarily of office development focusing on finance, corporate headquarters, and service industries, and serving as an employment center for the region. It permits office uses and retail sales and personal services uses. The district permits a base floor area ratio (FAR) of 6:1.[2] In this district, a maximum FAR of 18:1 is permitted subject to height and building bulk limitations with the inclusion of transferable development rights (TDR). TDR involves purchasing unused development potential from one site and transferring it to another site, further described in Section III.A, Land Use, Zoning and Plan Consistency.

The project site is in an area with a high level of transit services. The site is adjacent to the Transbay Terminal from which A-C Transit buses serve the East Bay, and is located within two blocks of over 15 San Francisco Municipal Railway (MUNI) bus routes and 5 MUNI Metro lines, the Bay Area Rapid Transit regional commuter rail service located under Market Street, Golden Gate Transit bus service to the North Bay located on Mission Street, and SamTrans bus service to the Peninsula also located on Mission Street.

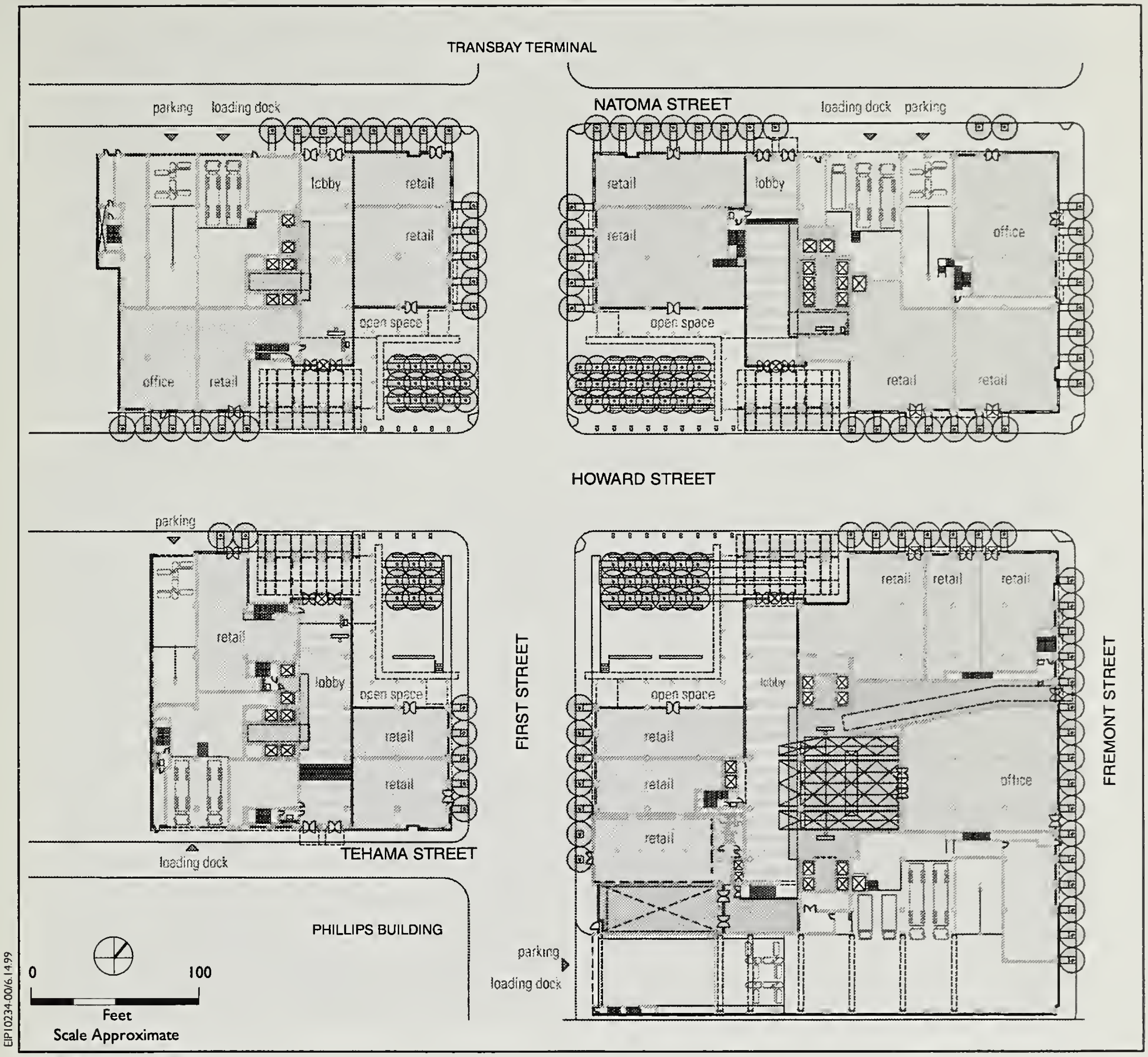
C. PROJECT CHARACTERISTICS

The First and Howard Streets project would construct four nine-story office buildings (about 160 feet tall, including the mechanical penthouses) with two levels of underground parking (see Figure 2). The proposed buildings are referred to herein as "Building 1," "Building 2," "Building 3," and "Building 4," on Areas 1 through 4, respectively. The project would be designed as a master-planned urban office complex, with a consistent architectural theme and identity. The total aggregate floor area in the project, by use, would be approximately 1,120,000 gsf of office space and about 56,000 gsf of ground-floor retail space. The project would have about 760 self-park spaces (1,230 spaces if valet). Table 1 shows the amount of square feet by use for the project as a whole and for each of the four buildings. The ground-floor retail space would be intended for food services, business services, and other incidental and support uses. A total of 11 to 13 loading spaces would be provided.

As currently designed, the project would provide public open space at the four corners of the First and Howard Streets intersection, consisting of an open plaza for each building, as shown on Figure 2. The open space would total approximately 28,800 sq. ft. A single, integrated design would be prepared for the four plazas. A portion of each plaza would be protected by an overhang created by the third floor of the adjacent building. The open space would be designed to encourage use and activity, with seating and strolling areas and direct linkages among the open spaces and to the entries, retail and/or lobby space of each building. The main entrances to each building lobby would be from Howard Street adjacent to the corner open space. Lobbies in Buildings 1, 3, and 4 would extend through the building from Howard Street to the streets at the backs of the building—Natoma Street for Buildings 1 and 3 and Tehama Street for Building 4. Retail uses are proposed throughout the project at the ground floor to activate the street level and to provide amenities for project tenants and employees in nearby businesses.

Although development is expected to occur in phases of one or two buildings at a time, the building design is intended as an integrated whole (see Figure 3, p. 37). Each building would have a 7-story base section. The height of this base would be about 103 feet, in compliance with Planning Code bulk requirements calling for the building base to be no taller than 1.25 times the width of the widest abutting street.

Each building is designed with precast concrete facades with square windows on the sides facing First and Howard Streets, and high-performance insulated glass curtain wall facades on



SOURCE: Studios Architecture

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FIRST AND HOWARD

FIGURE 2: CONCEPTUAL SITE PLAN

TABLE 1
PROJECT SPACE ALLOTMENT
(Gross Square Feet) [1]

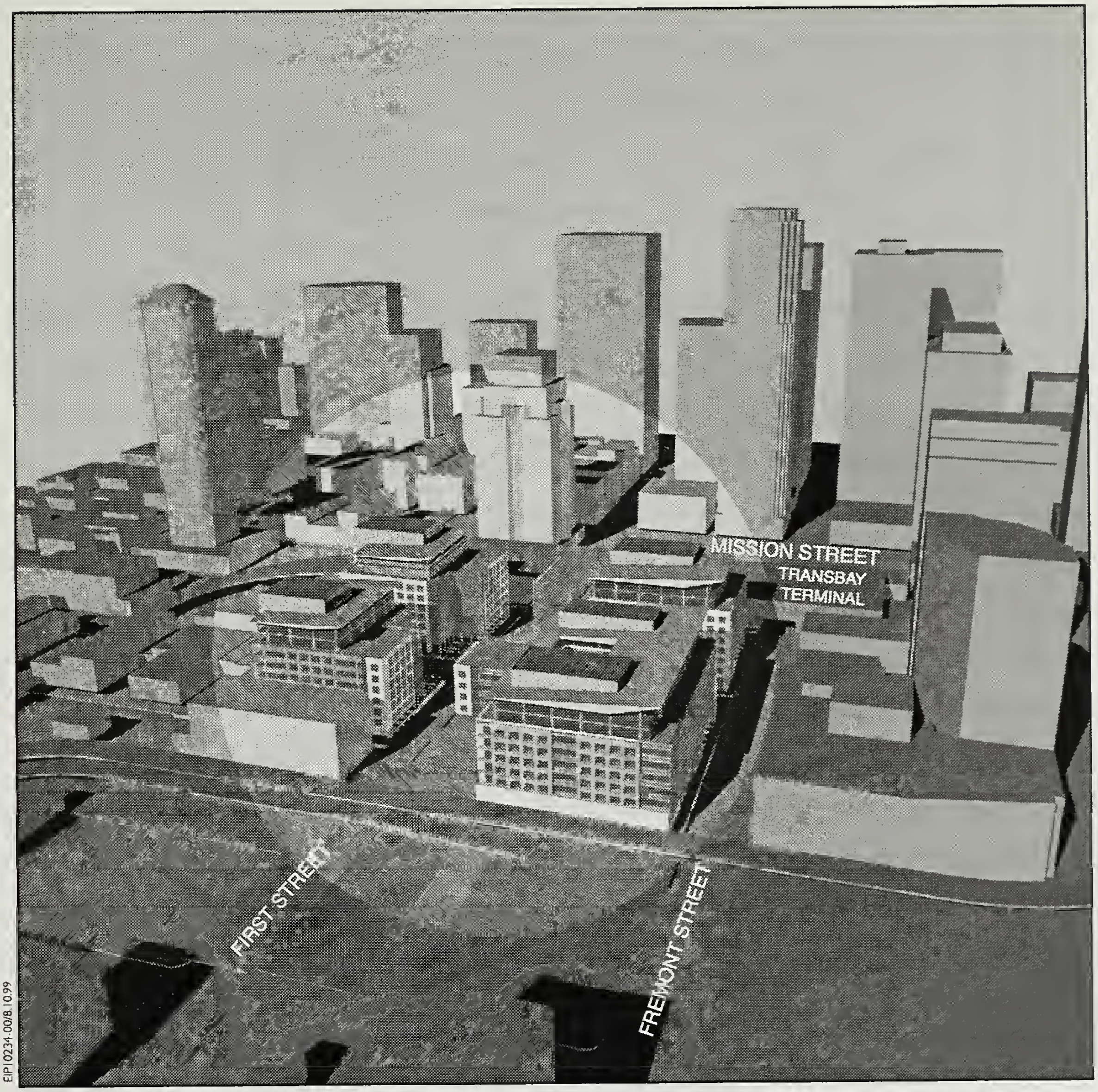
Land Use	Building 1	Building 2	Building 3	Building 4	Total
Office					
Project	283,000	453,700	178,300	205,000	1,120,000
Existing	53,800	19,600	24,000	88,500	185,900
Net	229,200	434,100	154,300	116,500	934,100
Retail					
Project	16,200	19,900	11,400	8,500	56,000
Existing	0	12,300	7,700	0	20,000
Net	16,200	7,600	3,700	8,500	36,000
Net New Office + Retail	245,400	441,700	158,000	125,000	970,100
Parking [2]					
Floor Area [3]	70,836	100,923	44,400	49,034	265,193
No. of Spaces (Self Park)[4]	202	288	127	140	757
(Valet)[5]	(329)	(469)	(207)	(228)	(1,233)
Open Space					
Project [6]	7,500	10,000	6,500	4,800	28,800

Notes:

1. Gross square feet as defined by Planning Code, which excludes mechanical space, lobbies, stair areas and certain areas dedicated to parking.
2. About 285 existing surface parking spaces would be displaced by the proposed project.
3. Excludes ramps, elevators, and stairs.
4. Self-park spaces based on 350 sq. ft. per parking space. The project may not provide as many self-park spaces as shown if more space is taken up by aisles and columns.
5. Valet park spaces based on 215 sq. ft. per parking space.
6. There is no existing open space on the project site.

Source: Studios Architecture, 3/15/99.

the other sides. The structure of each building would be visible behind the clear glass facades. The glass facades are intended to provide a signature architectural element and as well as contributing to energy efficiency by permitting maximum use of natural light and temperature control systems. The eighth and ninth floors of each building are proposed to be set back on all sides by varying distances from the base of the building below, providing space for outdoor



SOURCE: Studios Architecture

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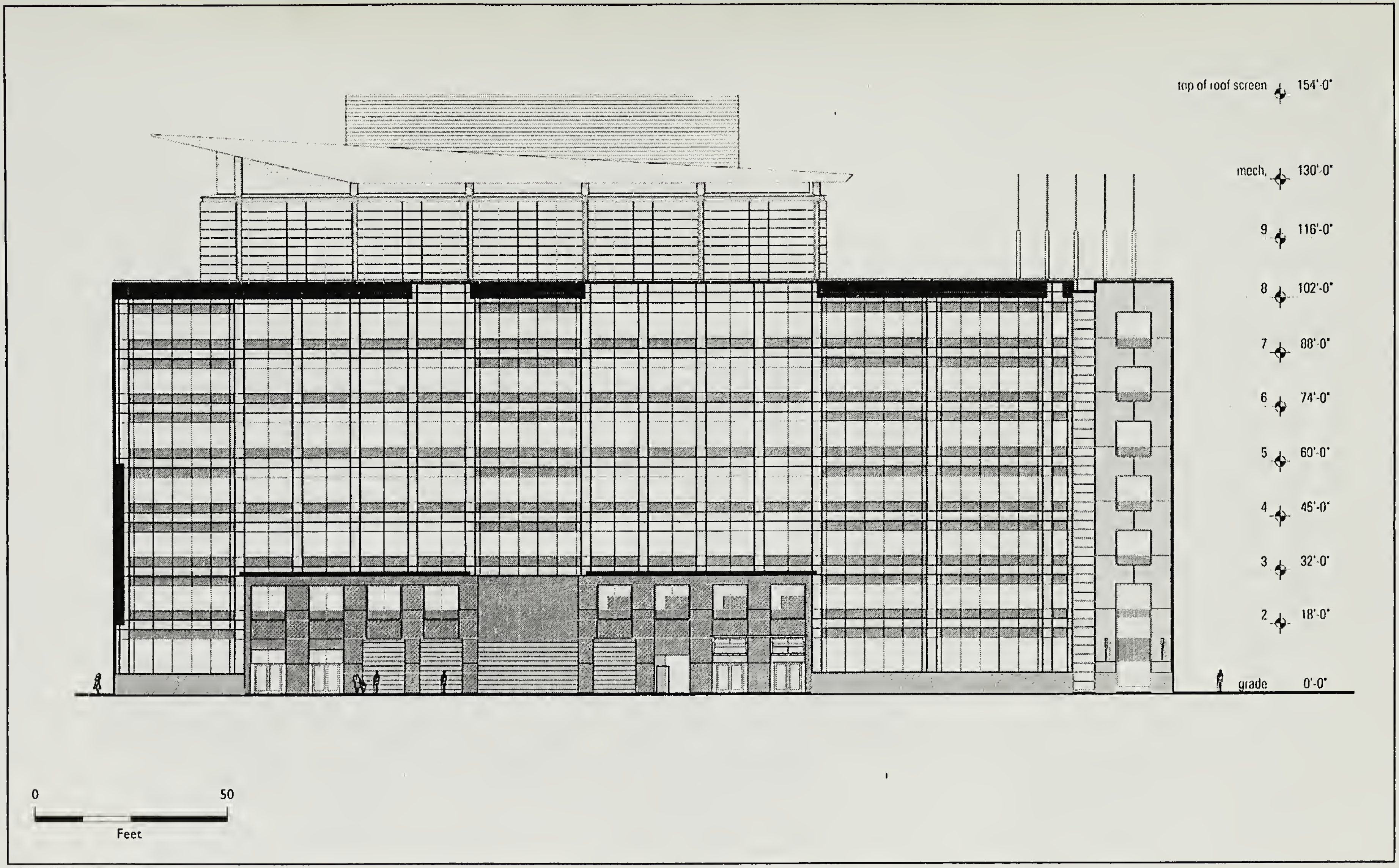
FIGURE 3: OBLIQUE AERIAL VISUAL SIMULATIONS
(VIEWED FROM SOUTHEAST, LOOKING TOWARD DOWNTOWN)

roof gardens accessible to building tenants, at the eighth floor level. These top two floors would have continuous clear glass curtain walls, with metal-clad, profiled roofs separated by structurally articulated reveals, creating a "lantern" effect above the seventh level. Illustrative elevations are provided below for informational purposes.

Building 1, at the northeast corner of First and Howard Streets, would include about 283,000 gross square feet (gsf) of office space and about 16,200 gsf of ground-floor retail space. The existing building at 199 First Street would be demolished, and the site would be excavated about 20 feet below the street elevation for two levels of parking. The two upper stories of Building 1 would exceed the lower tower bulk requirements in Section 270(d) of the Planning Code,[3] and therefore would require an exception under Planning Code Section 309. The main entrance to the building would be from Howard Street; access to the lobby would also be provided from Natoma Street (see Figure 4). The retail spaces would have separate entrances directly from the public open space or from the street. Building 1 would provide about 200 self park spaces (330 valet parking spaces) and would include two loading and one service vehicle spaces. Natoma Street would provide access to the two underground parking levels as well as the loading docks; trucks would maneuver in Natoma Street. The amount of building area used for parking in Building 1 would exceed the Planning Code limit for accessory parking in the C-3 Downtown Commercial districts, established at 7% of the gross square feet of the building, by about 50,000 gsf. Transferable development rights (TDR) would be used for the additional parking area. TDR also would be used in Building 1 because the 283,000 sq. ft. of office space would exceed the base 6:1 FAR for Area 1 by about 11,000 sq. ft.

Building 2 would be the largest of the four buildings, with about 453,700 gsf of office space and about 20,000 gsf of ground-floor retail space. Eight of the nine buildings on Area 2 would be demolished; 231 First Street would be retained. The two upper stories of Building 2 would exceed the lower tower bulk limits established in the Planning Code, as described above for Building 1. The main entrance to the lobby and courtyard would be from Howard Street (see Figure 5), with a secondary entrance from Fremont Street. Retail spaces would have separate entrances directly from facing streets. Building 2 would contain a courtyard in the center of the building that would be covered by a skylight at the lobby level and open above to the sky, allowing natural light to reach as much office space as possible. The project would



SOURCE: Studios Architecture

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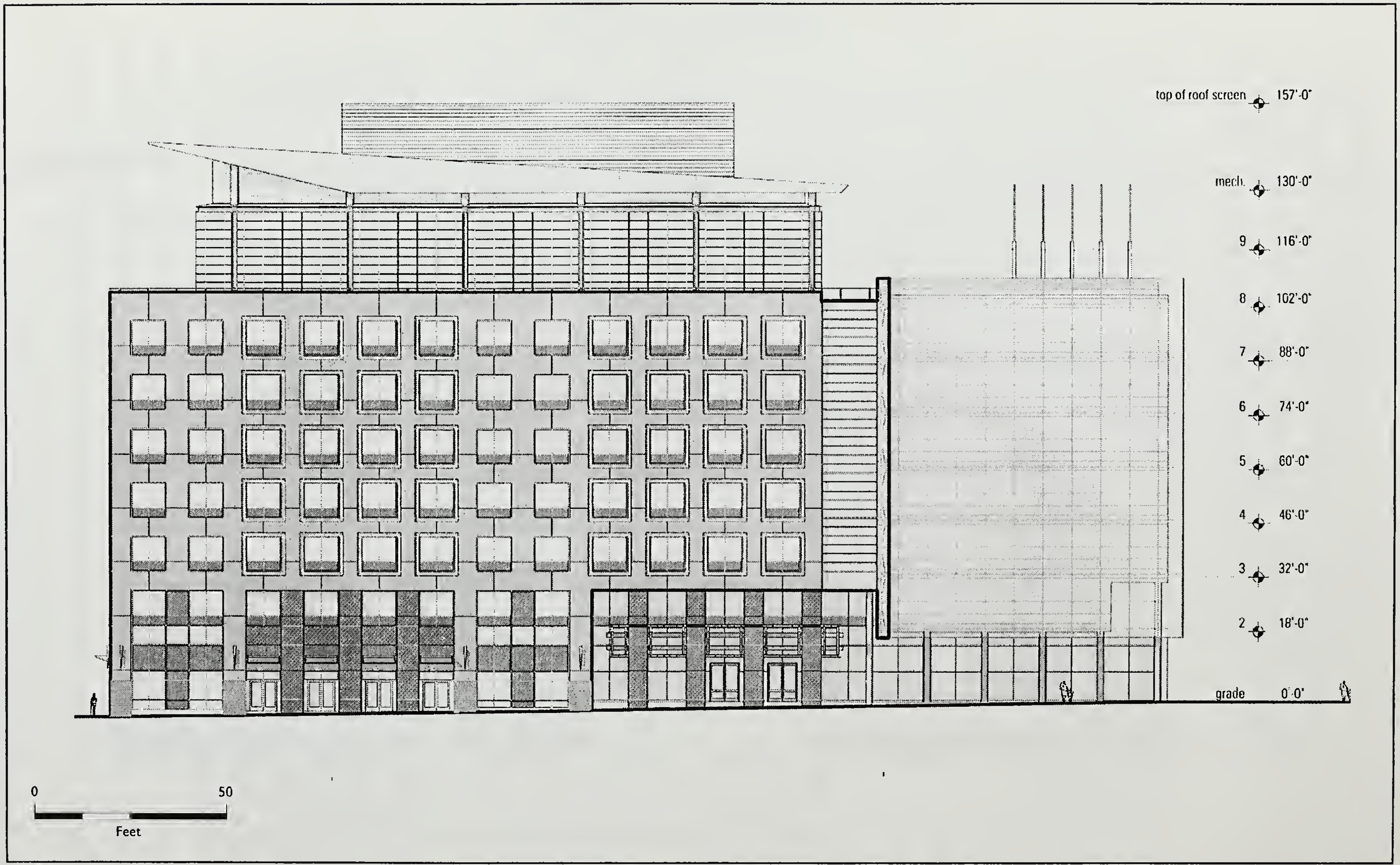
FIGURE 4: BUILDING I, NATOMA STREET ELEVATION



SOURCE: Studios Architecture

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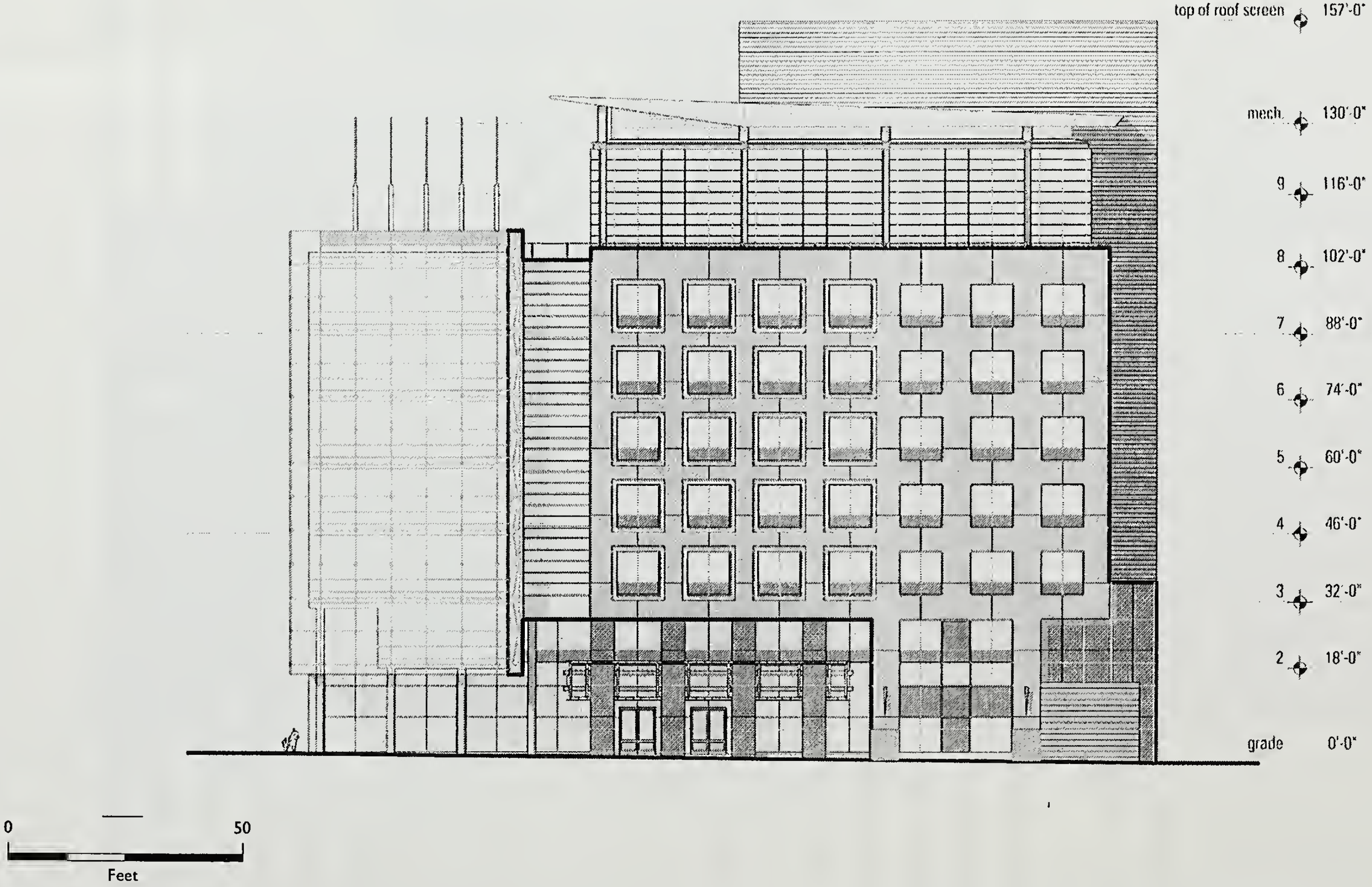
FIGURE 5: BUILDING 2, HOWARD STREET ELEVATION

retain and renovate the historic building at 231 First Street; it is likely that the first floor would be used for a restaurant while the upper floors would be office space. A private outdoor courtyard, which may be used for outdoor restaurant seating, is proposed immediately south of and adjacent to the 231 First Street building. The site would be excavated about 20 to 35 feet below the existing ground surface for two levels of underground parking. Access to the underground parking and loading area would be at the southwest corner of the building on First Street. Building 2 would include about 290 self-park spaces (470 valet) and four loading spaces—two large loading docks and two service vehicle spaces. Truck maneuvering would be accommodated within the building. As with Building 1, the amount of space devoted to parking would exceed 7% of the building gross square feet by about 65,000 gsf, and would require the use of TDR for the additional parking area.

Building 3 would contain about 178,000 gsf of office space, about 11,400 gsf of ground floor retail space, and about 125 self-park (205 valet) parking spaces (see Figure 6). The existing buildings on the site would be demolished, and the site would be excavated about 20 feet below the existing surface for two levels of parking. The new building would meet Planning Code bulk and FAR requirements; TDR would need to be used for parking in excess of the maximum 7% of gross floor area (about 30,000 gsf). The building lobby would extend through the building from Howard Street to Tehama Street. Access to the underground parking levels would be from Howard Street. The loading dock, with two loading spaces, would be accessed from Tehama Street, with truck maneuvering on the street.

Building 4 would include about 205,000 gsf of office space and about 8,500 gsf of ground-floor retail space. The building would meet Planning Code bulk and FAR requirements, with use of TDR for the parking area exceeding 7% of the gross floor area (about 34,000 gsf), as with the other project buildings. The existing building at 500 Howard Street and the existing surface and subsurface parking would be demolished. Excavation to about 20 feet below street level would provide for two underground levels of parking, with about 140 self-park spaces (225 valet spaces). Lobby entrances would be from both Howard Street, adjacent to the corner plaza open space, and from Natoma Street (see Figure 7). Entrances/exits to the underground parking levels and the loading dock, including two loading spaces, would be



SOURCE: Studios Architecture

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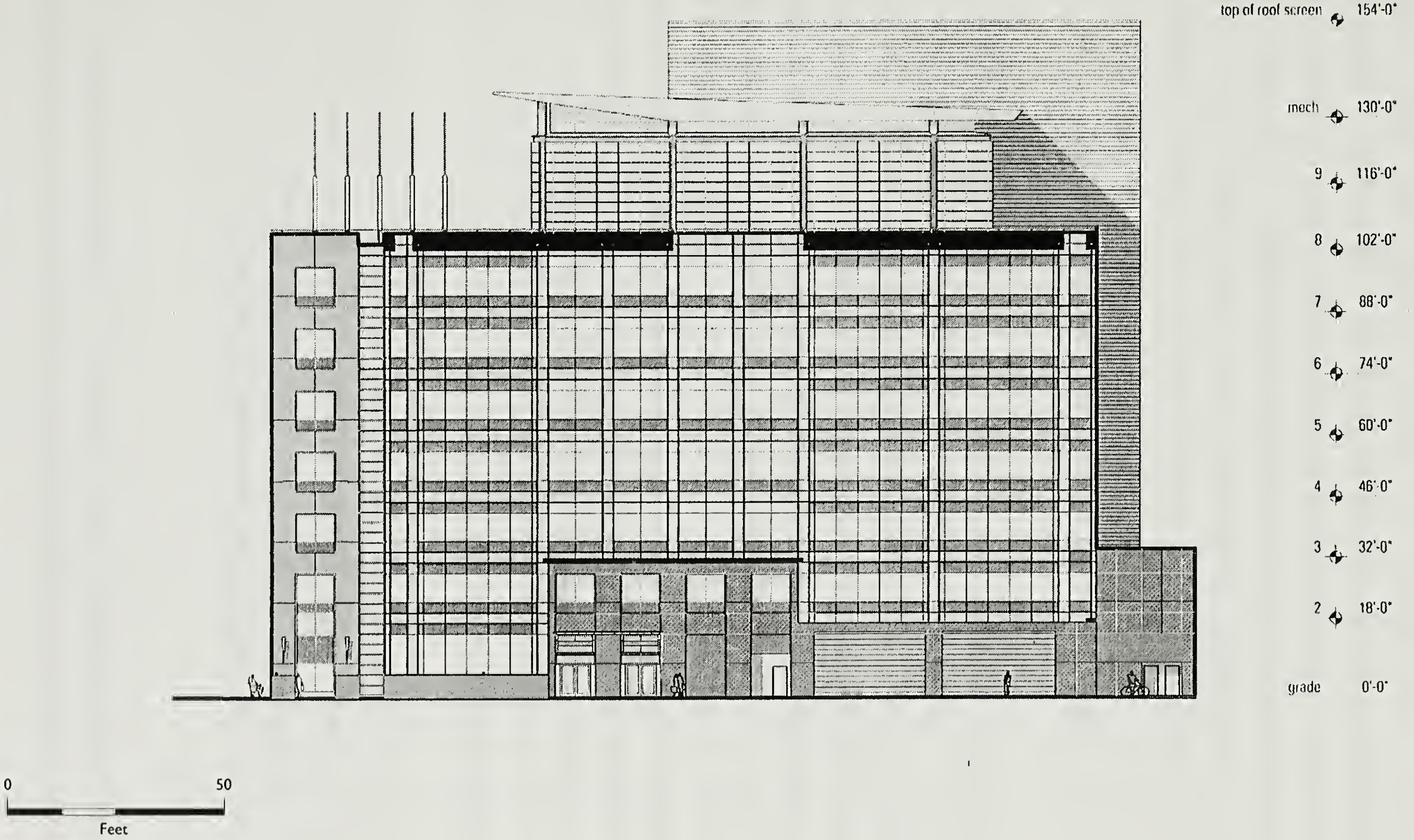
FIGURE 6: BUILDING 3, HOWARD STREET ELEVATION



SOURCE: Studios Architecture

FIGURE 7: BUILDING 4, NATOMA STREET ELEVATION

from Natoma Street west of its intersection with First Street. Maneuvering area for trucks would be in Natoma Street.

The proposed project would include vacation of Tenny Place and Sloan Alley.[4] The space devoted to parking would exceed 7% of the total gross floor area of each proposed building, and would require Conditional Use authorization under the Planning Code, as discussed below. The project would either incorporate the required loading spaces (or equivalent service vehicle spaces) or would require an exception from Planning Code loading requirements.

D. PROJECT SCHEDULE AND APPROVALS REQUIRED

PROJECT SCHEDULE

The project sponsor expects environmental review, project review, and detailed design to be completed by early 2000. Planning Commission action and other review would be requested at that time for the entire project, including project authorization for office space under Planning Code Section 322, discussed below under Approval Requirements. Development would occur on a building-by-building basis, and would likely begin by approximately mid-2000. The phasing and pace of development would be dependent on market and other factors; more than one building could be under construction at one time if demand warranted. Construction of each building would take approximately 15 to 18 months.

APPROVAL REQUIREMENTS

Following a public hearing on the Draft EIR before the Planning Commission, responses to written and oral comments will be prepared. The EIR will be revised as appropriate and presented to the Planning Commission for certification as to its accuracy, objectivity, and completeness. No discretionary project approvals may be granted or permits issued before the Final EIR is certified.

The project would require Planning Commission action for the following: 1) review under Planning Code Section 309 for compliance with the downtown provisions of the Planning

Code and for an exception to the building bulk requirements for Buildings 1 and 2; 2) project authorization under Planning Code Section 322 for office development; 3) Conditional Use authorization under Planning Code Sections 157, 204.5 and 303 for parking space in excess of the maximum 7% of total gross floor area; and 4) Planning Code Section 158 for approval for parking garages. Street vacation and a General Plan referral for the vacation of Tenny Place and Sloan Alley would require review and approval by the Department of Public Works and the Board of Supervisors following a determination on conformity with the *San Francisco General Plan* by the Planning Department. The project may also require an exception to loading requirements under Planning Code Section 161(I), as further described in Section III.D, Transportation.

In the C-3-O(SD) district, where the basic permitted floor area ratio is 6:1, a maximum of 18:1 FAR (subject to height and bulk limits) is permitted with the use of transferable development rights, as discussed further in Section III.A, Land Use, Zoning and Plan Consistency. As each proposed building would exceed the base FAR of 6:1, the Planning Department would review the building plans for each building to confirm that a proper transfer has occurred pursuant to Planning Code Section 128.

The project would be reviewed by the Planning Department, the Planning Commission, and the Board of Supervisors (street vacations) in the context of applicable objectives and policies of the *San Francisco General Plan*. Pertinent objectives and policies are discussed in Section III.A, Land Use, Zoning, and Plan Consistency. Decision-makers may address additional objectives and policies from the *General Plan* during consideration of project approval.

The building at 231 First Street is listed in the San Francisco Planning Code as a Category I building (Appendix A to Article 11, p. PL-381). Any major alterations to this building would be reviewed by the Planning Department, the Landmarks Preservation Advisory Board, and/or the Planning Commission, pursuant to procedures and standards set forth in San Francisco Planning Code Article 11.

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which established eight Priority Planning Policies. The policies, contained in Section 101.1 of the Planning Code, are described in Section III.A, Land Use, Zoning and Plan Consistency.

NOTES - Project Description

1. Floor Area Ratio (FAR) means the ratio of floor area in gross square feet (i.e., a measure of total building square footage), as defined by Planning Code Section 102.9, to the site area in square feet. In the downtown area (C-3 Districts), mechanical space; vertical penetrations such as elevator shafts, stairs, and mechanical ducts; ground-floor retail space; lobby space; and parking areas (as further defined in Sections 102.9 and 204.5) up to 7% of the gross floor area of the structure or development, are all exempt from FAR calculations, and are excluded from calculation of gross square footage.

2. Ibid.

3. Building bulk limits are established through maximum building length and diagonal horizontal dimensions and limits on maximum and average floor areas. The project site is in the "S" bulk district, which is defined in Planning Code Section 270(d). For a building under 160 feet in height, the lower tower may not have a length of more than 160 feet and a diagonal dimension of more than 190 feet; the lower tower of a building is the portion of the building from the building base to 160 feet. The building base height is established at 1.25 times the width of the widest adjacent street.

4. Tenny Place and Sloan Alley have not functioned as public streets for many years, as they are surrounded by property controlled by a single private owner. There has been a "No Trespassing" sign and chain-link gate across Tenny Place where it intersects First Street during this time.

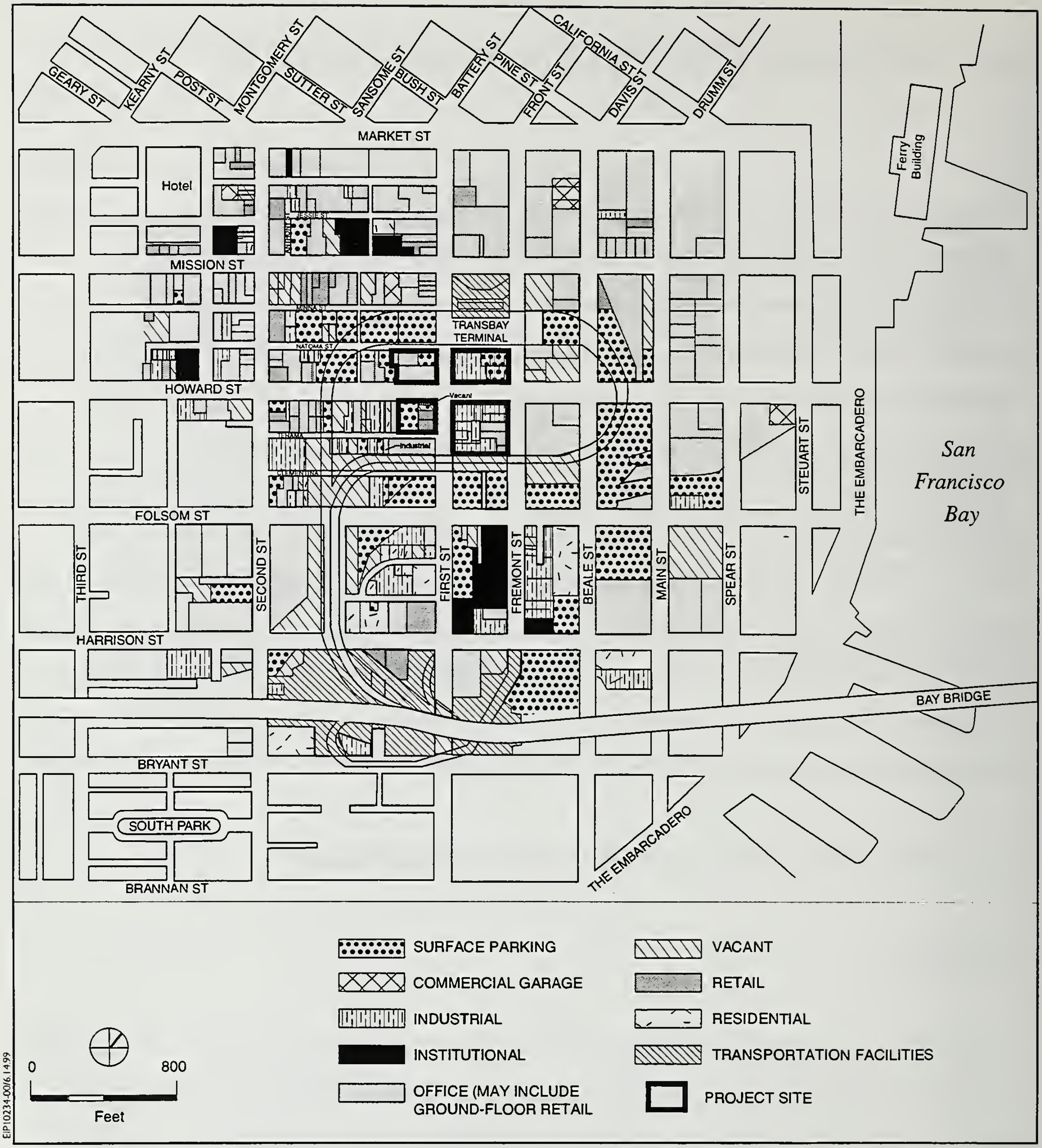
III. ENVIRONMENTAL SETTING AND IMPACTS

An application for environmental evaluation for the project was filed December 10, 1998. On the basis of an Initial Study published on March 27, 1999, the San Francisco Planning Department determined that an EIR was required. The Initial Study determined that the following effects of the project would either be insignificant or would be reduced to a less-than-significant level by mitigation measures included in the project and thus required no further analysis: noise, construction air quality, utilities/public services, biology, geology/topography, water, energy/natural resources, hazards, and archaeological resources (see Appendix A, p. A.1, for the Initial Study). Therefore, the EIR does not discuss these issues. The Initial Study also found that land use, business displacement, visual quality/urban design changes, and shadows would not cause potential significant environmental effects and require no further analysis, but noted that the EIR would include a discussion of these topics for informational purposes. The project's potentially significant impacts in the area of wind, transportation, air quality, and historic and architectural resources are assessed in this chapter.

A. LAND USE, ZONING AND PLAN CONSISTENCY

LAND USE

The project is in the South of Market Area of San Francisco. The project site is located about two blocks south of Market Street and immediately south of the Transbay Transit Terminal (see Figure 1, p. 32). The project site is in a transition area from high-intensity office use in the north to an area of predominantly mixed, low-rise commercial and industrial uses, residential development, and surface parking in the south (see Figure 8). Land use north of the project site is characterized primarily by a concentration of high-rise office towers. Of these towers, most are 15 stories or taller and contain ground-floor retail uses. Generally, buildings north of the project site, near Market Street, are taller than newer development



SOURCE: EIP Associates

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FIRST AND HOWARD

FIGURE 8: EXISTING LAND USE IN PROJECT VICINITY

south of Mission Street. To the south, southeast and west of the project site, land use previously dominated by the Embarcadero Freeway and opened up as a result of freeway demolition is now vacant or used for surface parking and remains in Caltrans ownership. Structures in these areas are primarily older commercial buildings, typically from one to six stories in height. Further to the west, beyond Second Street, is the Yerba Buena Center Redevelopment Area, with mixed residential, cultural, office, hotel, and open space uses.

The project site is approximately 184,800 square feet (about 4.2 acres) in size. This EIR distinguishes between the portions of the project site by referring to, beginning with the northeastern corner and continuing clockwise, "Area 1," "Area 2," "Area 3," and "Area 4" (see Figure 1, p. 32).

Existing uses on the site consist of a mix of office, retail, warehouse/storage, and surface parking. Buildings on the site are generally three stories and under, with one four-story building and one five-story building. Area 1, on Assessor's Block 3720, is approximately 45,375 square feet. It contains a three-story building used by Fritzi of California to produce clothing and a surface parking lot with about 120 spaces. Area 2, on Assessor's Block 3737, totaling about 75,625 square feet, is the largest area, with 12 one- to three-story buildings. Fritzi of California uses a number of buildings for storage, cutting operations, office, and a retail outlet. Other uses in Area 2 include warehousing and about 10 parking spaces. A number of the buildings are vacant or only partially used. Area 2 also includes Terry Place and Sloan Alley, both City-owned rights-of-way. Area 3, on Assessor's Block 3736, is approximately 29,715 square feet in size. Uses on the site include a four-story brick building with ground-floor retail business and three floors of office space, an unpaved, 6-space parking lot for tenants at 501 Howard Street, a two-story building that is occupied by the Pacific Cash Register Company, a three-story building occupied by Office Furniture Warehouse Sales, and a paved parking lot operated by AMPCO Systems, with about 75 spaces. Area 4, on Assessor's Block 3721, is 34,047 square feet. Two buildings on Natoma Street are one-story, brick structures with office and storage space, another is an office building. 500 Howard

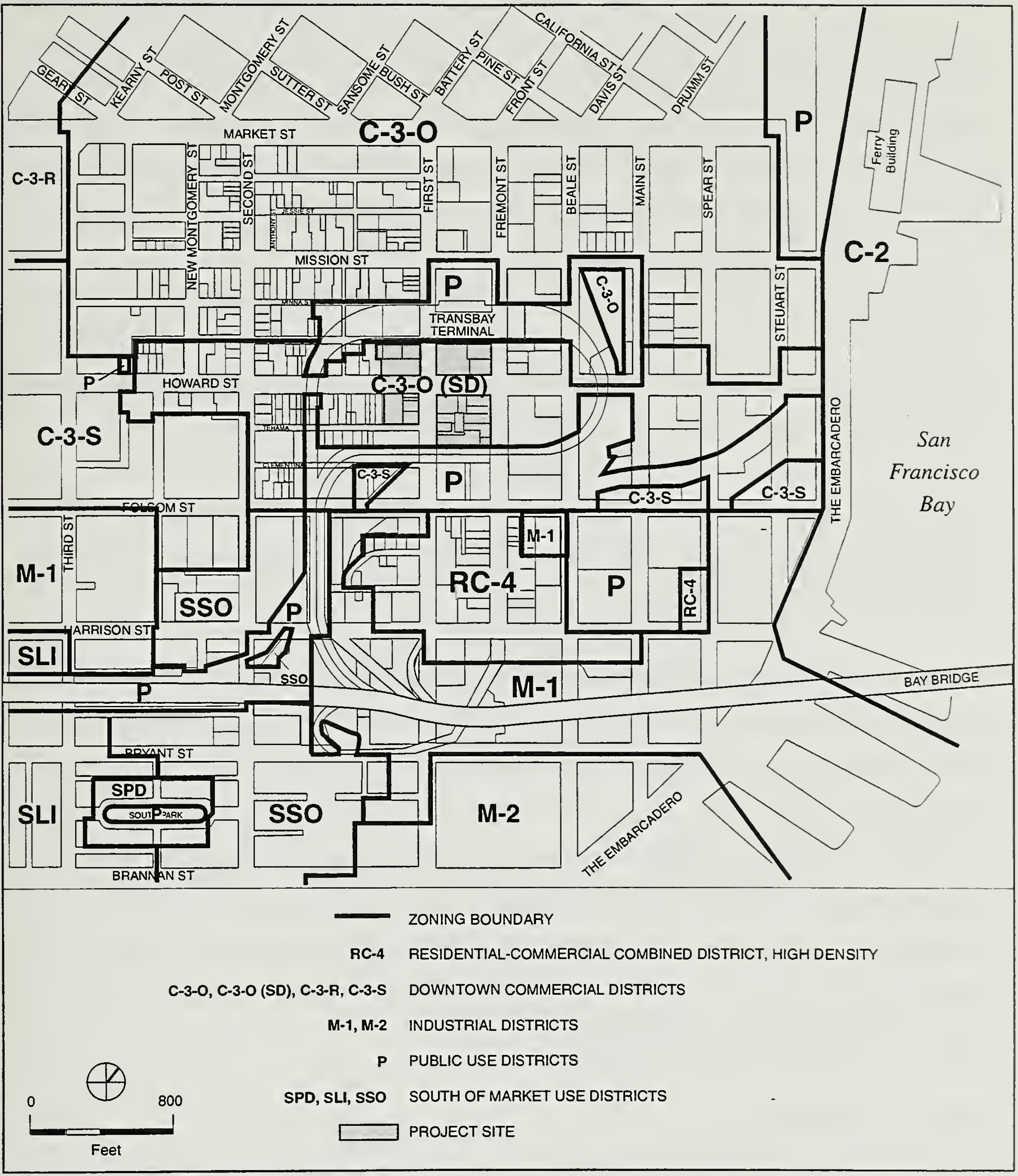
Street is a five-story building used for storage and office space. The Area has a 74-space parking facility, including a basement parking garage.

The Transbay Terminal is north of Areas 1 and 4, on the north side of Natoma Street. Uses east of Area 1 and Area 2 include office buildings, many with ground-floor retail uses, and surface parking lots. The multi-story building on the east side of Fremont Street south of Howard Street (215 Fremont Street) has been vacant since the 1989 Loma Prieta earthquake and is proposed for renovation and continued use as office space. A new high-rise office building is under construction across Fremont Street north of Howard Street; the existing building at the northeast corner of the intersection will be retained as part of that development project. South of Area 2 (under and south of the Transbay Terminal viaduct) is a private parking lot owned by Caltrans. The Phillips Building at 234-246 First Street is located south of Area 3, across Tehama Street; it houses office uses. Retail and industrial uses are located along Howard Street west of Area 3; immediately west of Area 4 is a paved parking lot, with office uses beyond.

ZONING

Use Districts

The project site is within the C-3-O (SD) (Downtown Office Special Development) district with a base floor area ratio (FAR) of 6:1 (see Figure 9). A maximum FAR of 18:1 (subject to height and bulk limits) is permitted with transferable development rights (TDRs). Section 210.3 of the Planning Code describes the C-3-O district in the following way: "This district, playing a leading national role in finance, corporate headquarters and service industries and serving as an employment center for the region, consists primarily of high-quality office development. The intensity of building development is the greatest in the City, resulting in a notable skyline symbolizing the area's strength and vitality. The district is served by City and regional transit reaching its central portions and by automobile parking at peripheral locations.



SOURCE: San Francisco Redevelopment Agency, San Francisco Planning Department

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FIRST AND HOWARD

FIGURE 9 : EXISTING ZONING DISTRICTS IN PROJECT VICINITY

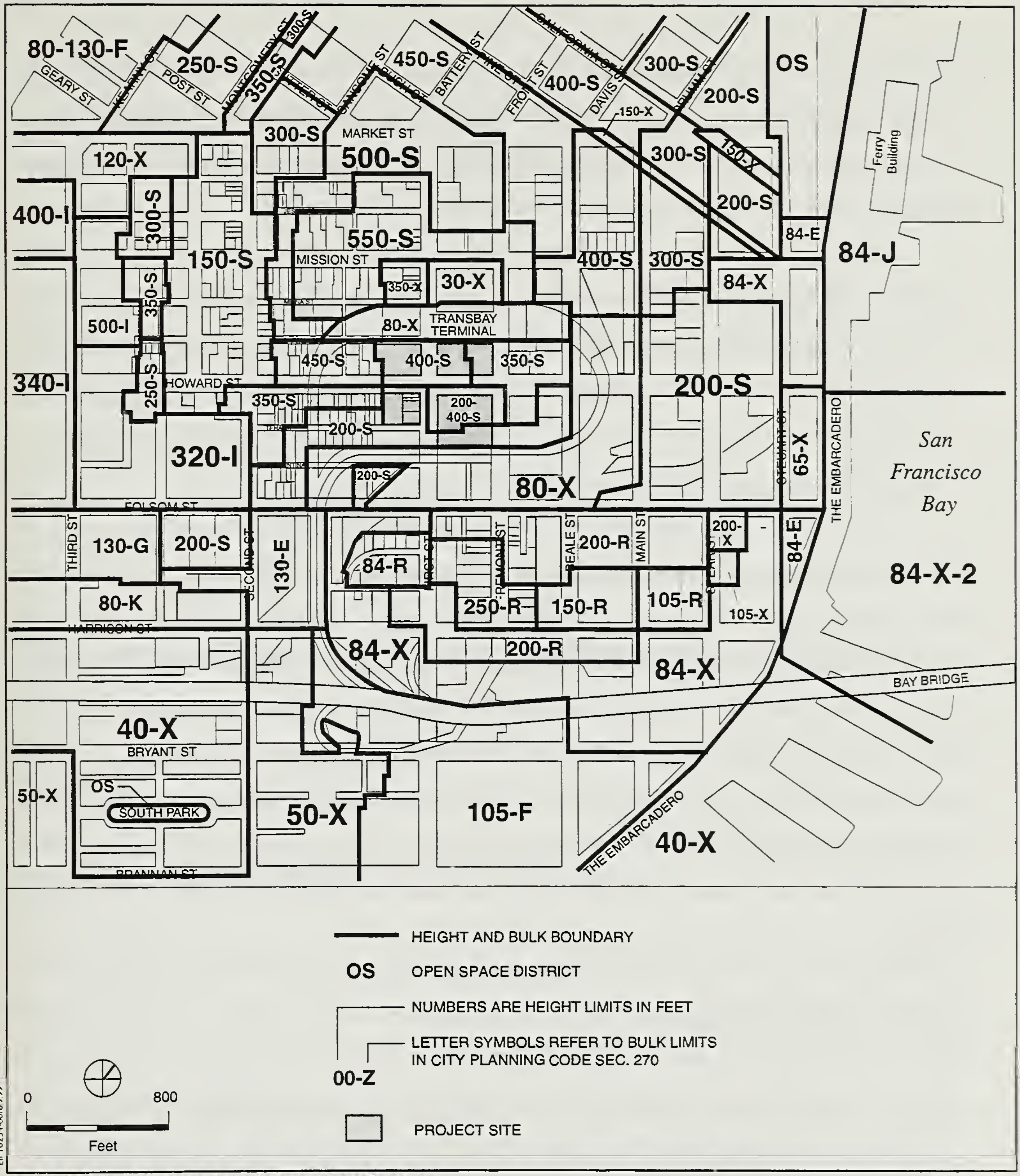
Intensity and compactness permit face-to-face business contacts to be made conveniently by travel on foot. Office development is supported by some related retail and service uses within the area, with inappropriate uses excluded in order to conserve the supply of land in the core and its expansion areas for further development of major office buildings."

Section 248 of the San Francisco Planning Code further defines the purpose of the Downtown Office Special Development District: "In order to provide for an orderly expansion of the financial district in a way that will maintain a compact downtown core, and to create an area in which to direct unused development potential of lots containing Significant or certain Contributory Buildings . . . Development at densities above the base floor area ratio in this area is appropriate only if there is a commensurate reduction in the allowable density of development on other sites in the downtown by transfer of development rights from eligible sites as provided in Section 128."

Transferable development rights are a planning mechanism to permit unused development potential to be shifted from one site to another. When development rights are transferred, further building on the lot from which development rights are obtained (the "transfer" lot) is then limited. In each of the C-3 districts (C-3-O, C-3-R, etc.), TDR are permitted from designated architecturally significant buildings to other sites within the same district beyond adjacent properties, under specified circumstances. Additional floor area above a base 6:1 is permitted, to a maximum of 18:1 using TDR providing height and bulk restrictions are met. Unlike other C-3 districts, sites in the C-3-O(SD) can accept TDRs from architecturally significant buildings in any C-3 districts.

Height and Bulk Districts

The height and bulk (building horizontal and diagonal dimensions) districts for the project site and surrounding area are shown on Figure 10. Area 1 is split between two height and bulk districts; Lot 7 on the west side of Area 1, is in a 400-S district, and Lots 5 and 6 on the east side, are in a 350-S height and bulk district. The "S" bulk district establishes limits on



SOURCE: San Francisco Redevelopment Agency, San Francisco Planning Department

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FIGURE 10: EXISTING HEIGHT AND BULK DISTRICTS IN PROJECT VICINITY

building bulk at specific heights; details are provided below. Area 2 is also divided between two height and bulk districts; the northern two-thirds is in a 200-400-S height and bulk district, and the southern third is in a 200-S height and bulk district. All of Area 3 is in a 200-S height and bulk district. Area 4 is in a 400-S height and bulk district.

The 200-S, 350-S, and 400-S height and bulk districts limit buildings to 200, 350, and 400 feet, respectively (assuming sufficient TDR to permit that density). In the 200-400-S height and bulk district, buildings are permitted at heights up to 400 feet if all open space required for development in the portion of Block 3737 within this district is aggregated to create a privately owned and maintained urban park.

In "S" bulk districts, there are no limitations of length or diagonal dimension applicable to the base of a building (see Planning Code Section 270(d)). The base is the lowest portion of the building extending vertically to a streetwall height of up to 1.25 times the width of the widest abutting street or 50 feet, whichever is more. Bulk controls for a lower tower, which is defined as the span between the building base and 160 feet, are a maximum length of 160 feet, a maximum floor size of 20,000 square feet, a maximum diagonal dimension of 190 feet, and a maximum average floor size of 17,000 square feet. Because the project buildings would be less than 160 feet tall, there is no upper tower and therefore upper tower bulk controls are not pertinent.

Article 11 — Planning Code

Article 11 of the San Francisco Planning Code states that: a substantial number of the buildings in the C-3 District have a special architectural, historical, and aesthetic value; a substantial number of these buildings have been and continue to be unnecessarily destroyed or impaired, despite the feasibility of preserving and continuing their use; and demolitions occur without adequate consideration for the irreplaceable loss to the people of the City of their aesthetic, cultural, historic and economic value. With this background, Article 11 establishes lists of significant buildings that may not be demolished, and includes standards for review of proposed alteration to these designated buildings. Article 11, as it affects buildings in the project area, is discussed in more detail below, in Section III.F, Historical Architectural Resources.

231 First Street has been designated a Significant Building, Category I, by the San Francisco Planning Commission and Board of Supervisors, pursuant to Planning Code Article 11, Section 1102, because:

- it is over 40 years old;
- it is individually important, as indicated by ratings of "excellent" or "very good" in various architectural, historical, and environmental categories; and
- its architectural design and relationship to the environment are both rated as excellent.

The evaluation upon which this rating is based is on file at the San Francisco Planning Department.

PLANS

Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which, among other things, established eight Priority Planning Policies. The policies, contained in Section 101.1 of the City Planning Code, are: 1) preservation and enhancement of neighborhood-serving retail uses; 2) protection of neighborhood character; 3) preservation and enhancement of affordable housing; 4) discouragement of commuter automobiles; 5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; 6) earthquake preparedness; 7) landmark and historic building preservation; and 8) protection of open space. Before issuing a permit for any project or adopting any legislation that requires an Initial Study under the California Environmental Quality Act, or adopting any zoning ordinance or development agreement, and before taking any action which requires a finding of consistency with the General Plan, the City is required to find that the proposed project, legislation, or action is consistent with the Priority Policies.

General Plan Policies

The project site is within the part of San Francisco covered by the Downtown Plan, an Area Plan of the *San Francisco General Plan*. Objectives and policies in the various Elements of the *General Plan* are typically duplicated in area plans, and the objectives and policies in an area plan are generally more detailed and focused. The Planning Commission and other City decision-makers would evaluate the proposed project against the provisions of the *General Plan*, including those in the Downtown Plan, and would consider potential conflicts with the *General Plan* as part of the decision-making process. This consideration of *General Plan* objectives and policies is carried out independently of the environmental review process, as part of the decision to approve, modify or disapprove a proposed project. Any potential conflicts with provisions of the *General Plan* that would cause physical environmental impacts have been evaluated as part of the impacts analysis carried out for other topics in this project EIR and the Initial Study (Appendix A). Any potential conflicts with *General Plan* policies not identified in this EIR could be considered in the project evaluation process and would not alter the physical environmental effects of the proposed project analyzed in this EIR.

The Downtown Plan is the policy document that guides most growth and development in San Francisco's downtown. Centered on Market Street, the plan covers an area roughly bounded by Van Ness Avenue on the west, The Embarcadero on the east, Folsom Street on the south, and Washington Street and the north. The plan contains a number of objectives and policies that address the following issues: provision of space for commerce, retail, housing, and open space; preservation of the past; urban form; movement to, from, and within the downtown area; and seismic safety.

The plan identified South of Market areas, particularly in the vicinity of the Transbay Terminal district (the C-3-O (SD) - Downtown Office, Special Development) to encourage new office development.

Some key objectives and policies of the *General Plan* relevant to the project are noted here; others may be addressed during consideration of project approval.

Downtown Plan

Objective 2:	Maintain and improve San Francisco's position as a prime location for financial, administrative, corporate and professional activity.
Objective 3, Policy 5:	Meet the convenience needs of daytime downtown workers.
Objective 9:	Provide quality open space in sufficient quantity and variety to meet the needs of Downtown workers, residents, and visitors.
Objective 10, Policy 5:	Address the need for human comfort in the design of open space by minimizing wind and maximizing sunshine.
Objective 11, Policy 1:	Place and arrange open space to complement and structure the urban form by creating distinct openings in the otherwise dominant streetwall form of downtown.
Objective 22:	Implement a Downtown streetscape plan to improve the Downtown pedestrian circulation system, especially within the core, to provide for efficient, comfortable, and safe movement.

Transportation Element

Objective 12, Policy 12.1:	Develop and implement strategies which provide incentives for individuals to use public transit, rideshare, bicycling and walking to the best advantage, thereby reducing the number of single occupant auto trips.
Objective 16:	Develop and implement programs that will efficiently manage the supply of parking at employment centers throughout the City so

as to discourage single-occupant ridership and encourage ridesharing, transit and other alternatives to the single-occupant automobile.

Objective 17: Develop and implement parking management programs in the Downtown that will provide alternatives encouraging the efficient use of the area's limited parking supply and abundant transit services.

Objective 24, Policy 2: Preserve pedestrian-oriented building frontages.

Objective 32, Policy 32.1: Discourage new long-term commuter parking spaces for single-occupant automobiles in and around dowtown. Limit long-term parking spaces to the number that already exists. (See also Downtown Plan Objective 18, Policy 3.)

Urban Design Element

Objective 2, Policy 4: Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

Objective 2, Policy 6: Respect the character of older development nearby in design of new buildings.

Objective 2, Policy 8: Maintain a strong presumption against the giving up of street areas for private ownership or use, or for construction of public buildings.

Objective 3, Policy 1: Promote harmony in the visual relationships and transitions between new and older buildings.

Objective 4, Policy 13: Improve pedestrian areas by providing human scale and interest.

Transbay Area Planning

The project site is located within an area that has been the focus of a number of land use and transportation planning efforts over the last 5-10 years. Most recently, the Metropolitan Transportation Commission (MTC) has been coordinating a planning effort focused on replacement of the Transbay Terminal on its existing site, with temporary construction and/or ancillary facilities located nearby on the "Main/Beale site" bounded by Main, Beale, Howard, and Folsom Streets. An earlier planning effort resulted in the *Transbay 20/20 Concept Plan*, prepared by the Planning Department and the Redevelopment Agency in December 1996, and a series of proposed zoning and height district changes in the area, which are the subject of an ongoing EIR process. The proposed zoning and height district changes are intended to facilitate private development and public investments in the area, including joint development to facilitate transit improvements. The proposed changes and the *Transbay 20/20 Concept Plan* have not been adopted by the City, and therefore are not official City policy.

The *Transbay 20/20 Concept Plan* covers the area generally bounded by Market, Spear, Bryant, Second, Howard, and Third Streets. It identifies portions of the project site, specifically Area 1, Area 2, and Area 3, as "Significant Development Sites." These sites are described as key development opportunities, defined and enhanced by the extensive network of open spaces and street improvements envisioned in the *Transbay 20/20 Concept Plan*, and are supported by the regional transit investments planned for the future. The *Transbay 20/20 Concept Plan* states: "Strategic sites owned by both private property owners and public agencies can set the standard for exemplary new development and urban design."

CHANGES IN LAND USE AND RELATIONSHIP TO PLANS

Proposed Land Use

The project would change land use at the project site from a mix of light-industrial, office, vacant buildings, and surface parking uses, to more intense office space uses with ground-floor retail space, subsurface parking, and open space. The project would extend the Financial District further into the South of Market area, as envisioned in the Downtown Plan in designating the area east of Yerba Buena Center between the Transbay Terminal and Folsom Street for downtown office use and in establishing this area as a Special Development district (C-3-O (SD)).

The proposed project would demolish the existing structures on site, except the 231 First Street Building, which would be retained, renovated, and integrated in the new project building in Area 2. Tenny Place and Sloan Alley are proposed to be vacated and incorporated into the project site. The proposed project would construct four nine-story (about 160 feet tall, including mechanical penthouses) office buildings with two levels of underground parking. The total floor area would be approximately 1,120,000 gsf of office space, about 56,000 gsf of ground-floor retail space, and about 760 self-park spaces (about 1,230 valet). The ground-floor retail space would be intended for food services, business services, and other incidental and support uses.

This proposed development would intensify land use at the project site. Given the nature of the project, however, this increase in density represents an expansion of uses which would be similar to and compatible with the uses in the vicinity of the project. Overall, the project would be consistent with existing and planned land uses in the vicinity and zoning for the site.

Business Displacement

Buildings on site are currently occupied by a variety of private businesses. As noted in the Initial Study (Appendix A), demolition of existing buildings on the site would displace some of the nine existing businesses and employees on the project site; as noted below, employees of Fritzi of California will move from the project site regardless of the proposed project. Space at the site is not now fully used. Many of the existing businesses and employees would be expected to relocate within San Francisco or elsewhere in the Bay Area. All tenants on the project site have short-term leases and six-month termination clauses.[1]

Fritzi of California, a clothing manufacturer and the largest business on the project site, was recently purchased by Kellwood Company in St. Louis Missouri (December 11, 1998). At the time of acquisition, Kellwood Company anticipated that employees would be retained at existing facilities through 1999. At the time the Initial Study was published, Fritzi had stated that they would remain in San Francisco at least through 1999. The Kellwood lease expires on December 31, 1999; occupancy rights terminate on this date. Kellwood's current business plan involves consolidating West Coast operations at a new facility in the City of Industry.[2] Last year Kellwood consolidated five other divisions located throughout southern California at their City of Industry facility. Kellwood's plans as of May 1999 are to relocate much of the operations from the San Francisco facility to the City of Industry facility by December 1999. On April 12, 1999, Kellwood Company began to issue WARN Notices to employees—60-day employment termination notices. Kellwood is considering plans to retain a design group of 20-30 employees in San Francisco, but, as of June 1999, commitments had not been made.

The project sponsor anticipates that construction would begin in the second quarter of 2000, although phasing of the site's development would not be specified until later in project planning; it would be partly based on anticipated market demand.[3] The first set of businesses could need to relocate by early in the year 2000. Some of the businesses at the First and Howard Streets project site could need to relocate by the year 2004 in any case, with or without the project, because many of the buildings on the project site are unreinforced masonry buildings requiring upgrading or vacating by 2004[4].

NOTES - Land Use, Plans and Zoning

1. Tom Sullivan, Senior Vice President, Development, Wilson Cornerstone, personal communication, February 2, 1999, EIP Associates.

2. Information in this paragraph unless otherwise noted is from Tim Seifert, Attorney and Assistant Secretary, Kellwood Company.

3. Information in this paragraph is from Tom Sullivan, Vice President, Development, Wilson Cornerstone, personal communication, February 2, 1999, EIP Associates.

4. The building at 505 Howard Street is a poured-in-place concrete structure. Some buildings are wood frame construction. Other buildings are unreinforced masonry buildings (UMBs).

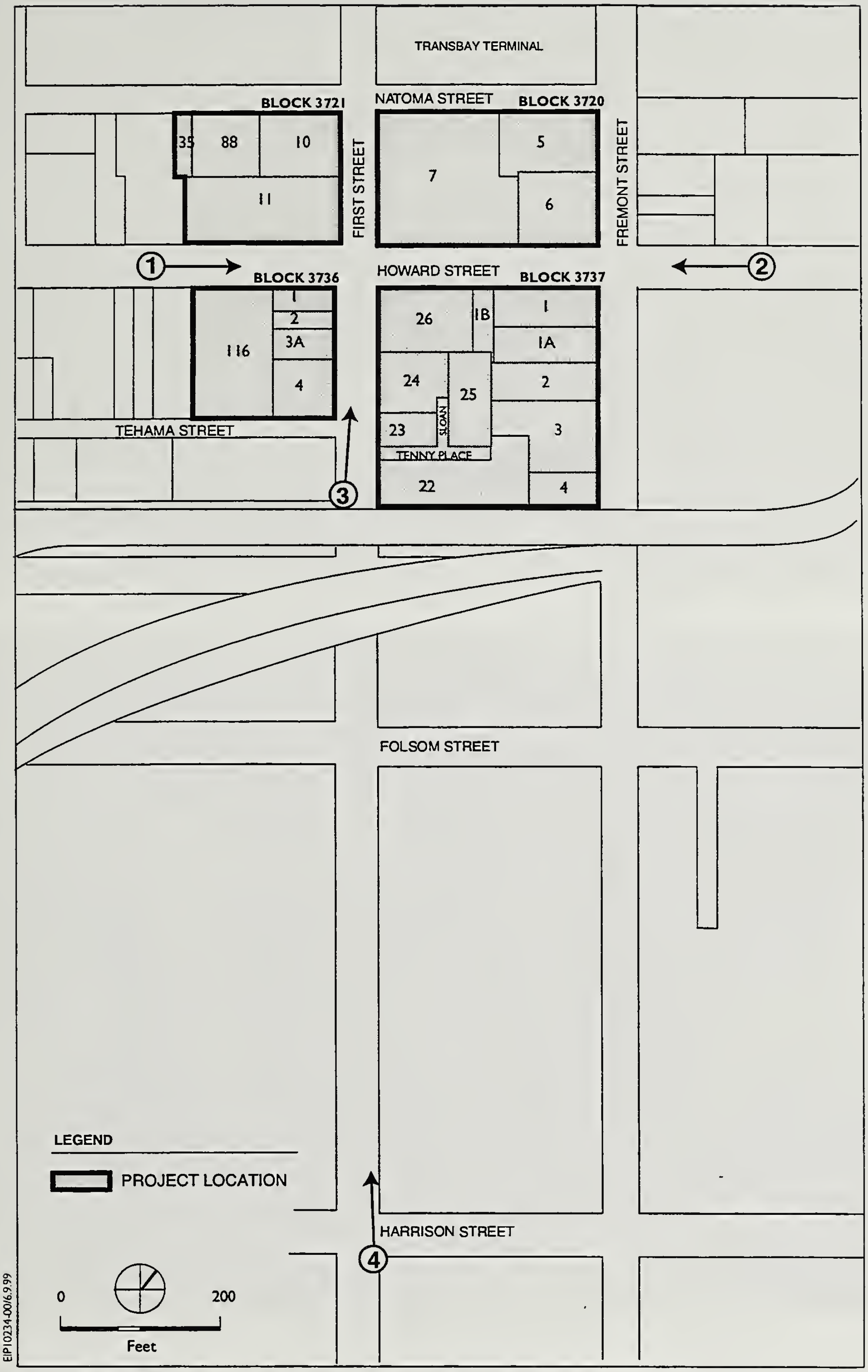
B. VISUAL QUALITY/URBAN DESIGN

The Initial Study, published on May 27, 1999, determined that visual quality effects of the proposed project would not be significant (see Appendix A, p. A.11). However, existing visual quality and urban design conditions, and changes with the proposed project are included herein for informational purposes. Section II, Project Description, and Section III.A, Land Use, Zoning and Plan Consistency, describe the project location, the existing built environment on the project site and in the vicinity, and planned development.

EXISTING VIEWS

Photographs showing representative views of the project site have been taken at four locations in the project vicinity (see Figure 11). Existing views looking east from Howard Street near the project site include distant views of the San Francisco Bay and Yerba Buena Island as well as views of high-rise office buildings at 101 Howard and 301 Howard Streets in the background on the south side of Howard Street, and 180 Howard Street and Two Rincon Center on the north side (see Figure 12, View 1A). The under-construction 199 Fremont Street building will also be visible from the project site along Howard Street. As seen in Figure 12, View 1A, views near the project site of San Francisco Bay and Yerba Buena Island are partially blocked by the Transbay Terminal Loop overpass across Howard Street between Beale and Main Streets.

As seen in Figure 13, View 2A, existing views west on Howard Street from east of Fremont Street include mid-rise office and commercial buildings, the Pacific Telephone & Telegraph Company Building, the Marriott Hotel, and the high-rise hotel at the northeast corner of Howard and Third Streets. Distant views of Twin Peaks are blocked from the project site along Howard Street by the Transbay Terminal Loop overpass between First and Second Streets and by existing buildings.

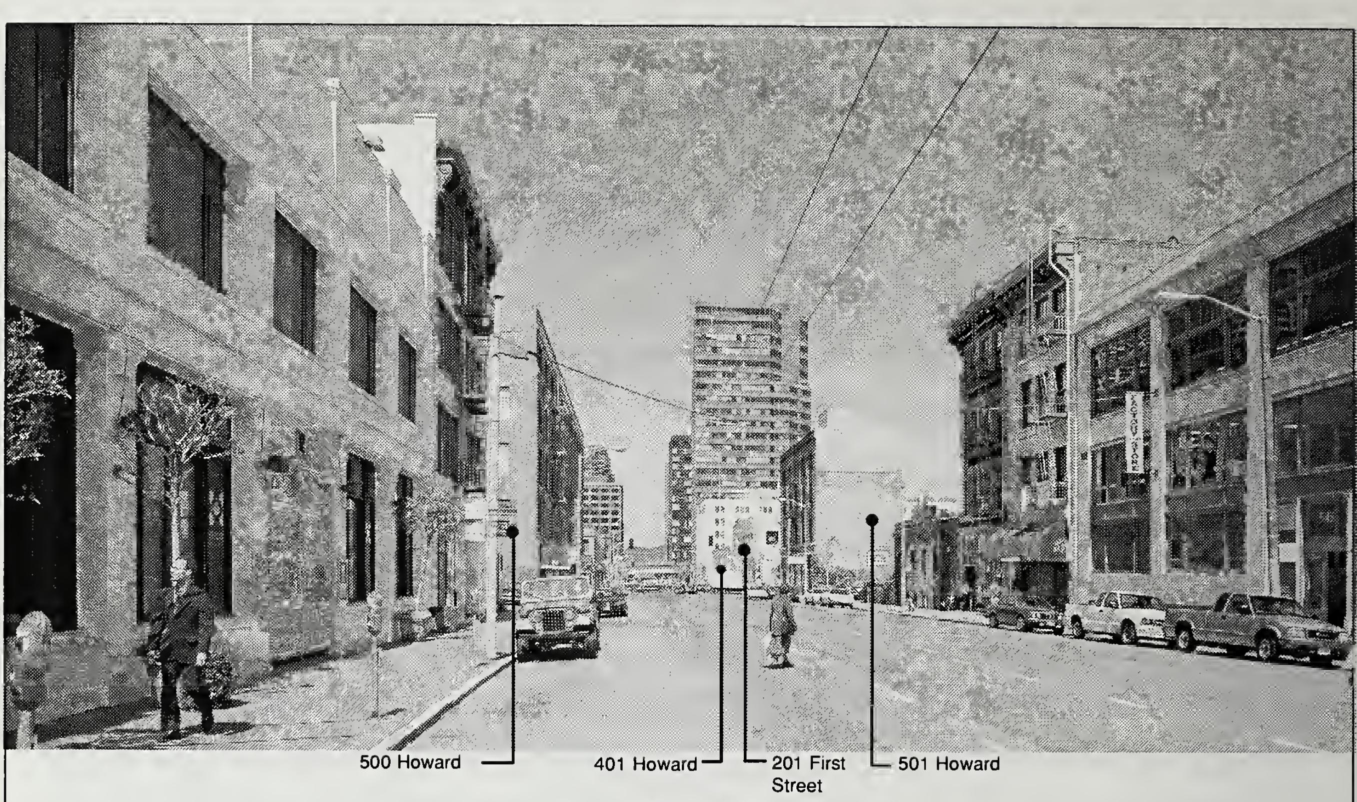


SOURCE: EIP Associates

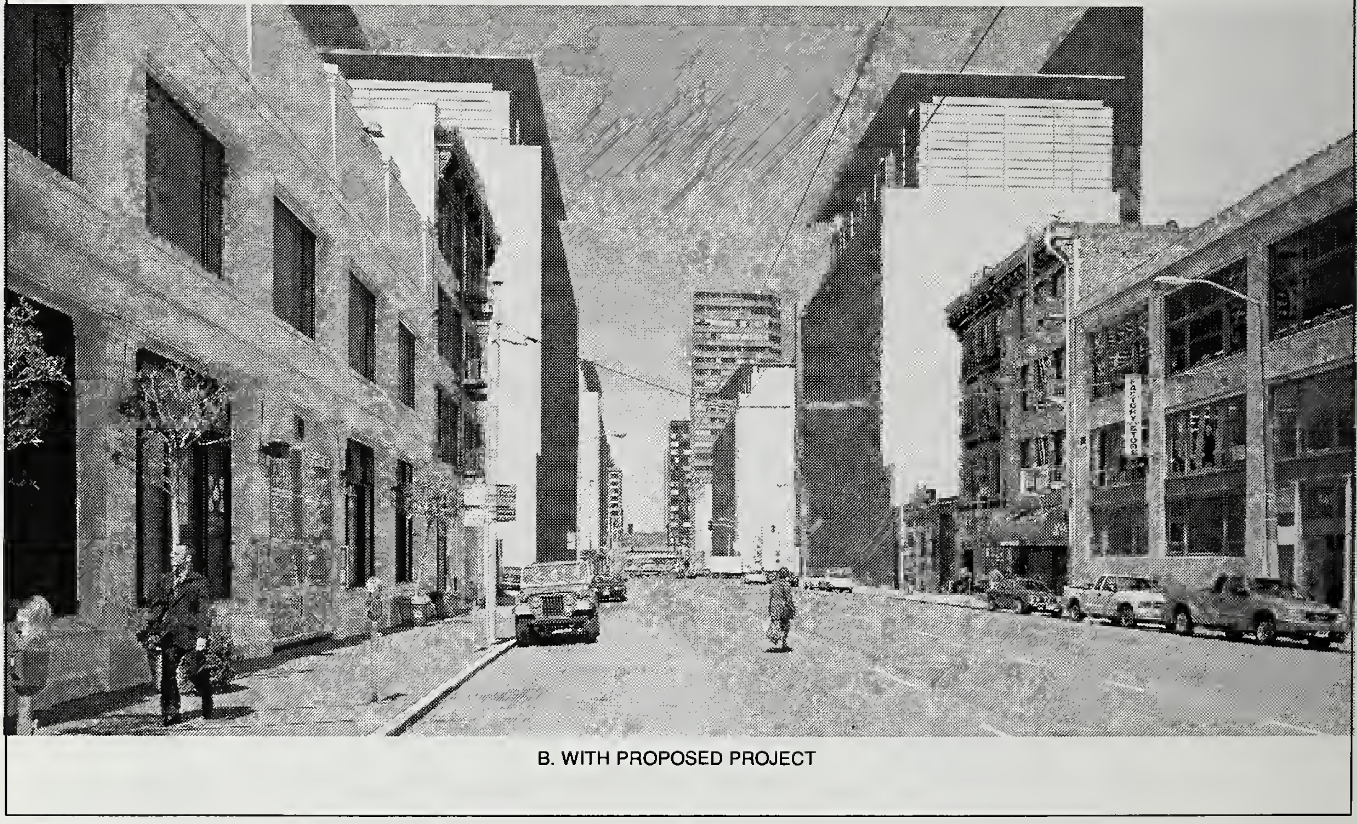
EIP ASSOCIATES

FIRST AND HOWARD

FIGURE 11: VIEWPOINT LOCATIONS



A. PROJECT SITE



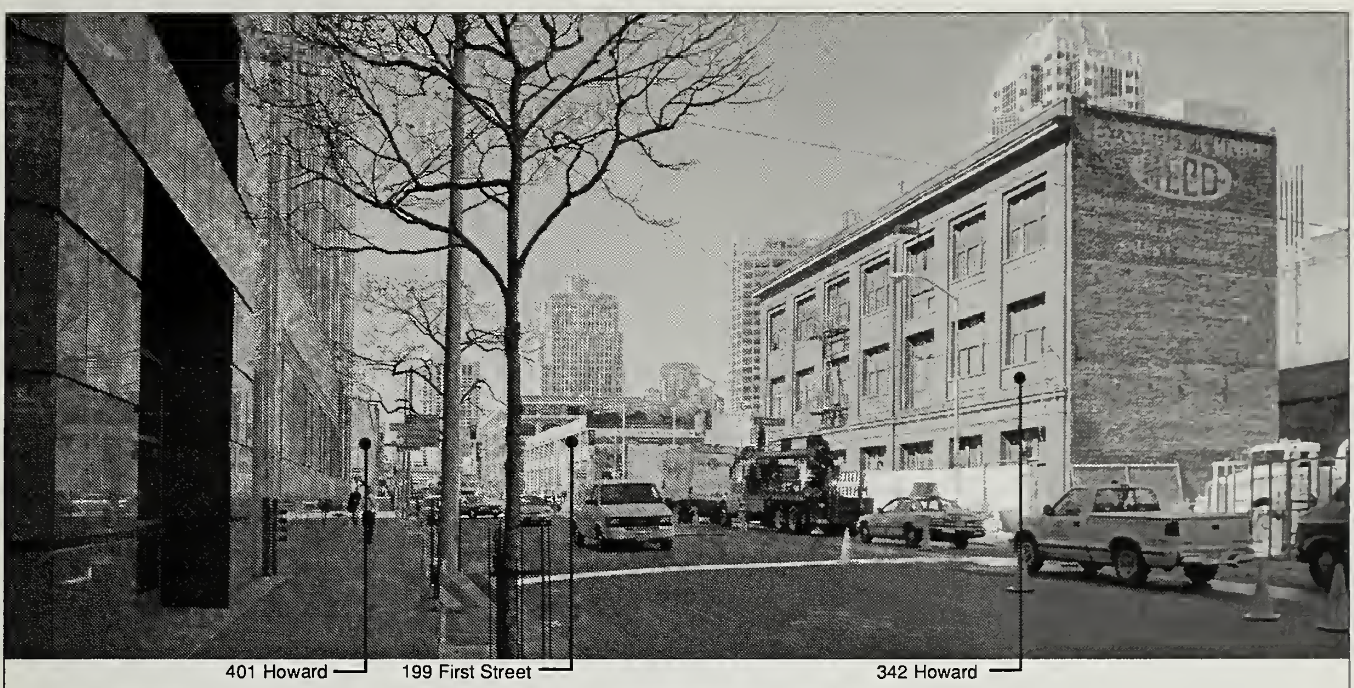
B. WITH PROPOSED PROJECT

SOURCE: Square One Productions
NOTE: See Figure 11 for Viewpoint Location

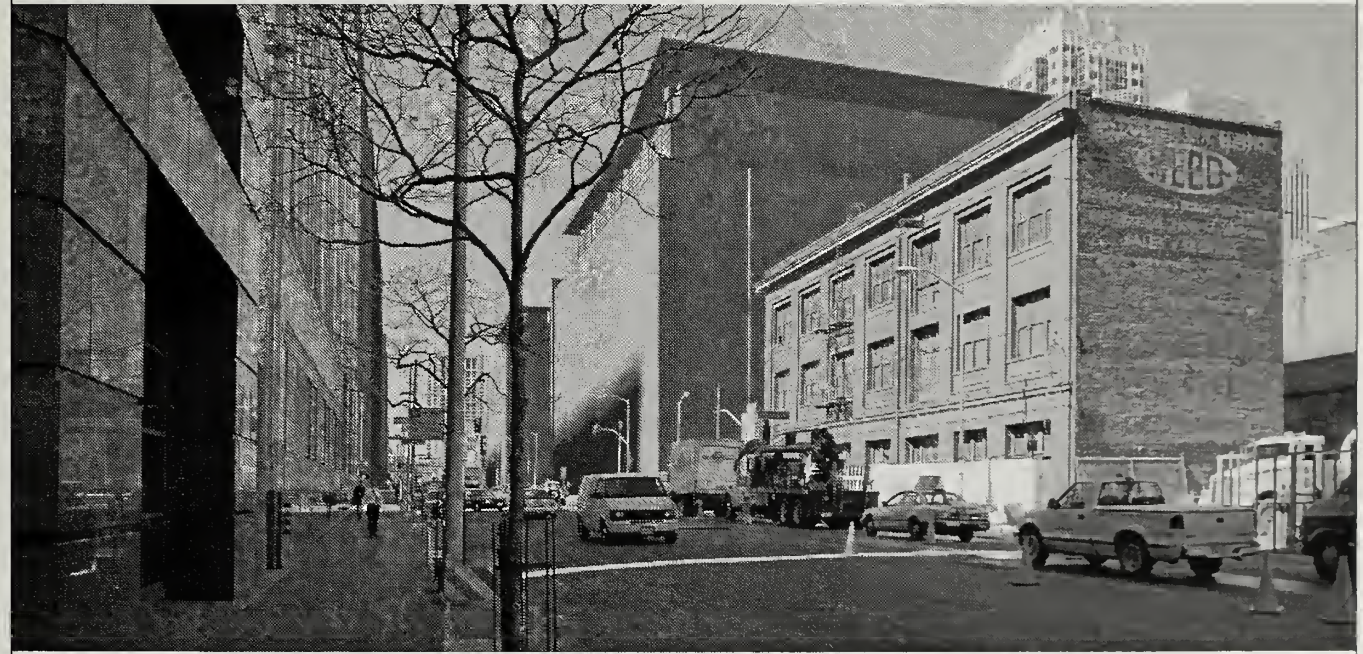
EIP
ASSOCIATES

FIRST AND HOWARD

FIGURE 12: VIEW 1, LOOKING EAST FROM HOWARD STREET NEAR SECOND STREET



A. PROJECT SITE



B. WITH PROPOSED PROJECT

SOURCE: Square One Productions
NOTE: See Figure 11 for Viewpoint Location

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FIRST AND HOWARD

FIGURE 13: VIEW 2, LOOKING WEST FROM HOWARD STREET FROM EAST OF FREMONT STREET

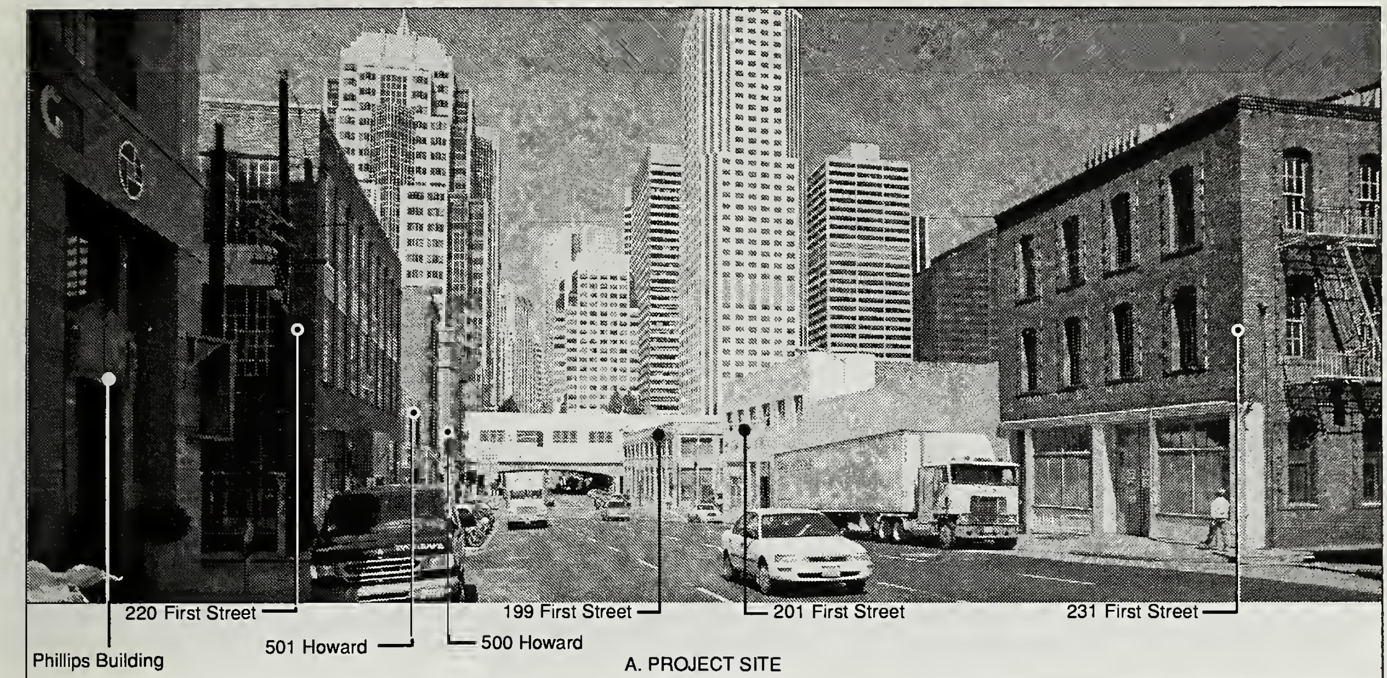
Existing views north from First Street include Downtown high-rises, such as 100 First Street, 50 Fremont Center, 525 Market Street, 45 Fremont, and 77 Beale Street. The views show the lower scale of existing development in the South of Market area south of Mission Street. The Phillips Building at First and Tehama, south of the project site, is visible from locations on First Street. These views are illustrated in Figure 14, View 3A and Figure 15, View 4A.

Views south from First Street include the uphill slope of Rincon Hill from near Folsom Street to the upper deck of the Bay Bridge at Harrison Street. The Fremont Street exit from I-80 crosses First Street as part of the Transbay Terminal Loop and borders the project site to the south; this portion of the loop is visible from locations along First Street between the Transbay Terminal and Harrison Street. The Bank of America clock tower at Harrison and First Streets can be seen north of the Bay Bridge from locations near the project site. Views of the project site from the Bay Bridge are blocked by existing buildings, such as the Phillips Building, and the Terminal Loop south of the project site.

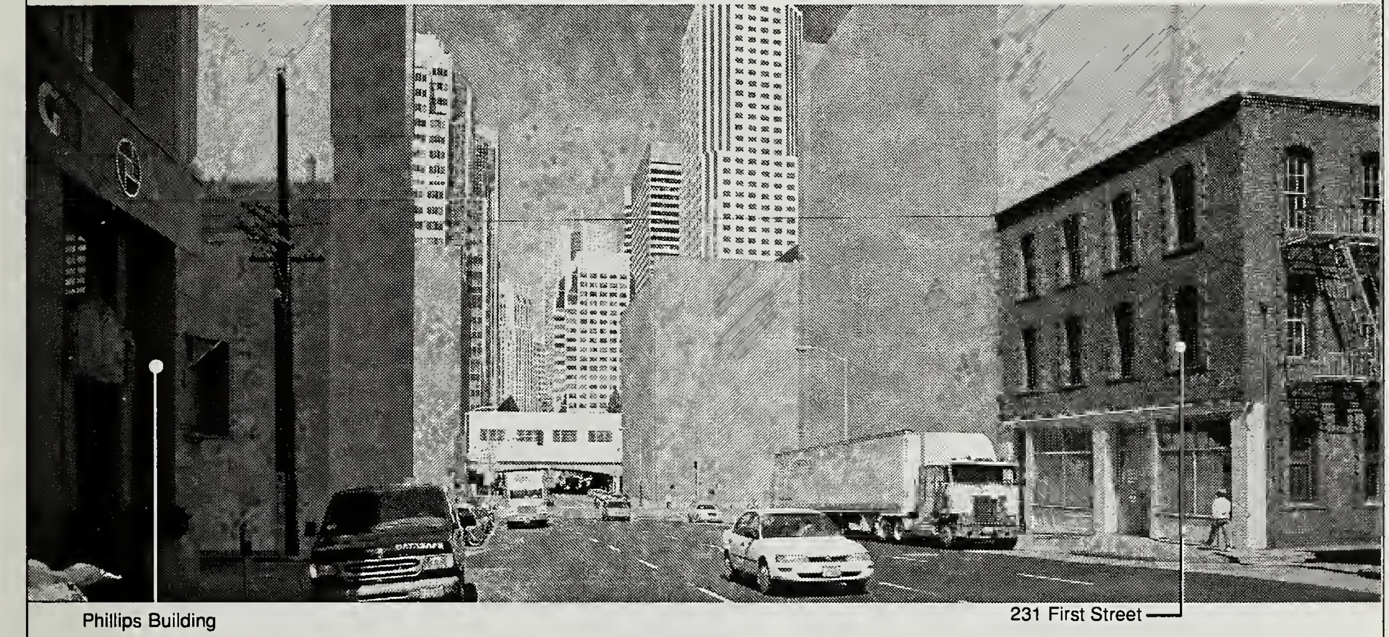
Buildings along Howard Street and First Street are built to the sidewalk edge without setbacks forming the street wall, typical of the urban form in downtown San Francisco. This street wall is broken by occasional public plazas such as the 50 Fremont Center plaza and pedestrian-way between Fremont and First Streets north of Mission Street, and The Gap headquarters plaza to the east between Folsom and Howard Streets.

COMPARISON WITH EXISTING VISUAL QUALITY/URBAN DESIGN ENVIRONMENT

The proposed project would increase the scale of development on the project site; the height and bulk of the proposed buildings would be similar to or less than that of other development in the nearby Financial District. The project would be taller than existing buildings on the site (two to five stories in height); and shorter than some structures nearby to the north, such as the 25-story 100 First Street building at Mission and First Streets, and the 43-story 50 Fremont Center. Several high-rise buildings are under construction near the project site,



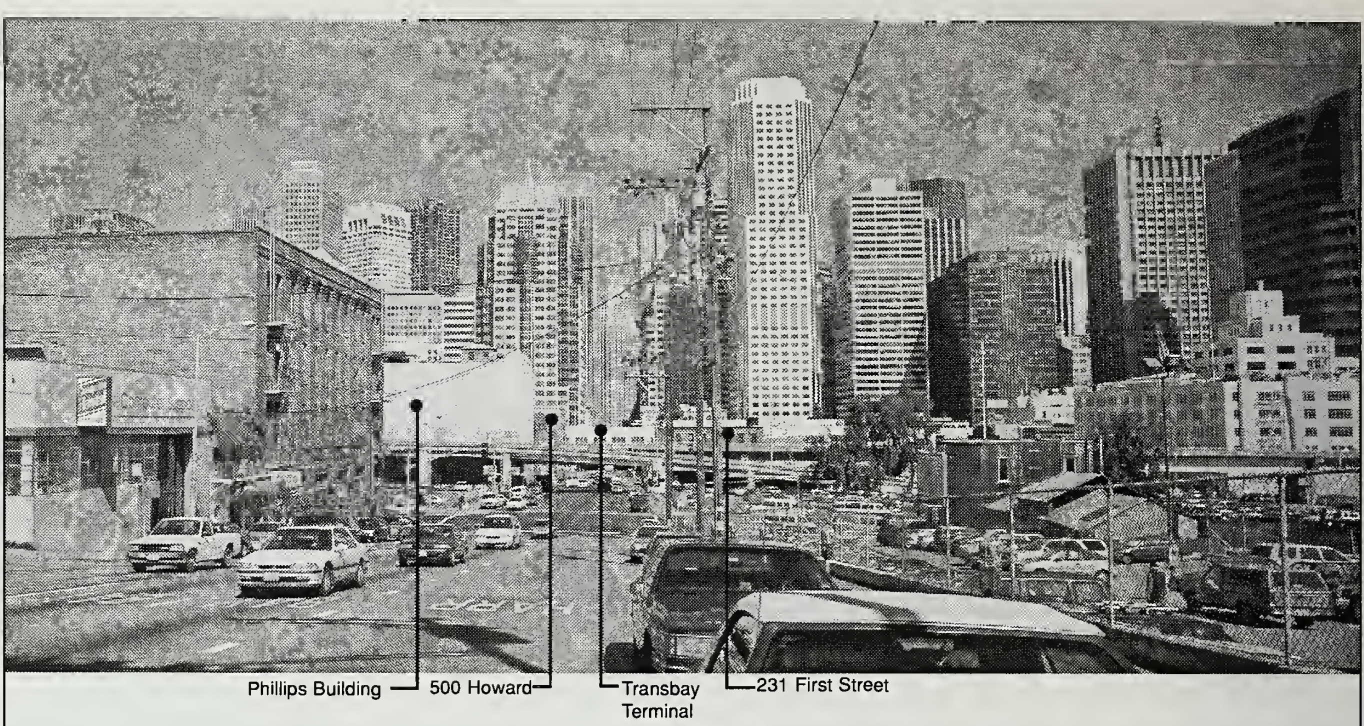
A. PROJECT SITE



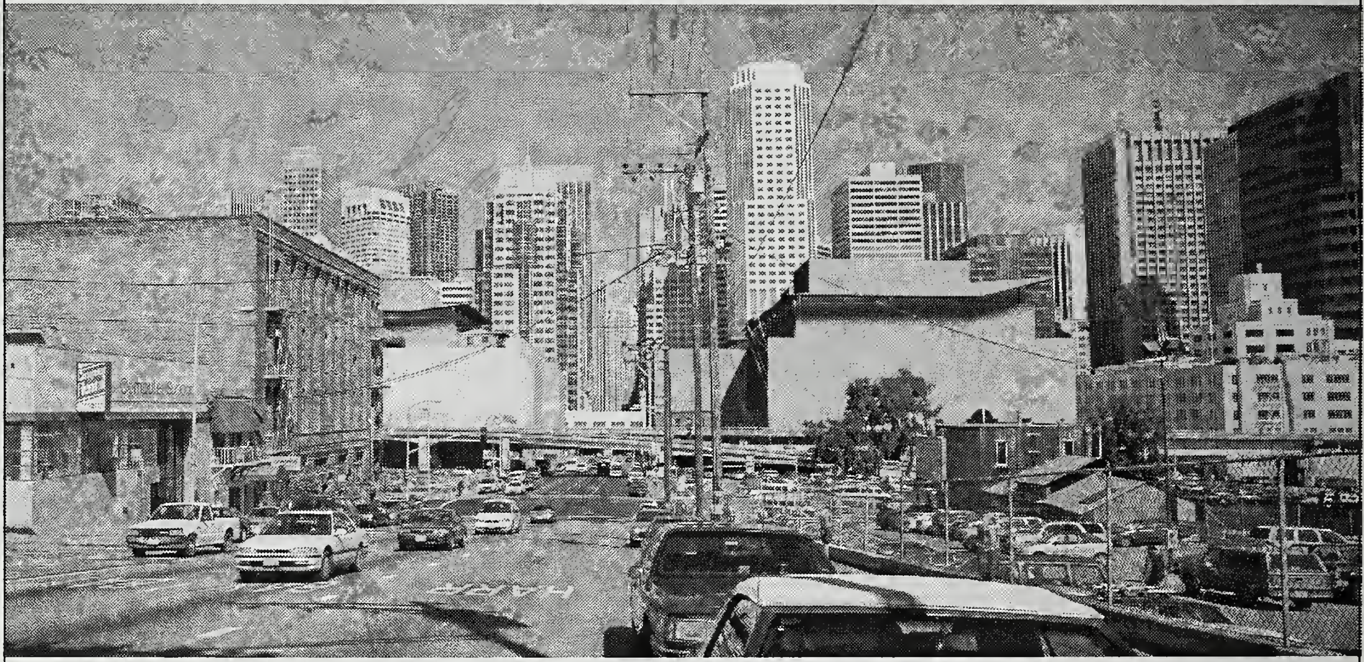
B. WITH PROPOSED PROJECT

SOURCE: Square One Productions
NOTE: See Figure 11 for Viewpoint Location

FIGURE 14: VIEW 3, LOOKING NORTH FROM FIRST STREET NEAR TEHAMA STREET



A. PROJECT SITE



B. WITH PROPOSED PROJECT

SOURCE: Square One Productions
NOTE: See Figure 11 for Viewpoint Location

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FIGURE 15: VIEW 4, LOOKING NORTH FROM FIRST STREET NEAR HARRISON STREET

including 199 Fremont Street, a 25-story office tower approximately 300 feet tall, across Fremont Street from project Area 1; 101 Second Street, a 325-foot-tall office tower; and the 49-story Century residential tower on Natoma Street across from Area 4. The 9-story buildings proposed for the project site would provide a transition between the taller structures to the north, near Market Street, and the lower scale, one- to four-story buildings to the south.

Visual simulations were developed from four selected view points. The simulations were prepared relatively early in the building design process, and, therefore, do not include architectural detailing and landscaping and streetscape features that would be incorporated in the project.

As seen in Figure 12, View 1B, the view looking east on Howard Street would include the four project buildings. The project buildings would be taller than existing buildings at the site, but shorter than high-rise office towers on Howard Street east of the project site. Views to the east would include the project open space at the First and Howard Street corners. The proposed buildings would not block views of the Bay, Yerba Buena Island, or other public open space.

The view looking west on Howard Street near Fremont Street, seen in Figure 13, View 2B, would replace views of shorter two- to four-story buildings with the project's nine stories. Views of distant high-rise buildings such as the Marriott Hotel and the Pacific Telephone building would be blocked.

Figure 14, View 3B, a view north from First Street near Tehama Street, illustrates the massing of the project along First Street. 231 First Street, in the foreground of this figure, would be renovated as part of the project. The proposed plazas at the four corners of First and Howard Streets, not shown in detail in View 3B, would be visible from that location.

The view north from Rincon Hill on First Street near Harrison Street, as seen in Figure 15, View 4B, would include all four of the new buildings between the Transbay Terminal Loop and the Transbay Terminal. The buildings would be taller than structures near Harrison Street, south of the project site, but shorter than high-rise buildings north of the project site.

The project would be partially visible from longer-range viewpoints, such as Twin Peaks or Potrero Hill, as part of overall views of downtown. Those views would be limited by existing buildings and I-80 structures. The project would fit within and below the skyline, blending into views of existing downtown development from these more distant sites. Views of the project from the Bay Bridge would be intermittently blocked by existing, intervening buildings near the project site.

The project would not block scenic vistas from public viewing points. It would provide a transition from downtown high-rise towers to low-rise buildings in the South of Market area. Thus, as discussed in the Initial Study, the project would not have significant impacts on long-range or short-range views.

The project buildings would extend to the sidewalk edges, conforming with other downtown buildings. The project open space, provided in public plazas at the four corners of the intersection, is designed to complement the adjacent areas and to interconnect with and relate to pedestrian alleyways, building lobbies and retail spaces. The four project buildings and plazas have been designed as a single project, providing a unified design at the project's four street corners.

C. SHADOWS AND WIND

SHADOWS

The Initial Study (Appendix A, p. A. 21) determined that the project would not have a significant shadow effect under Planning Code Section 295 because it would not shade open spaces under the jurisdiction of the Recreation and Park Department. This chapter describes project shadow effects on other public open space areas, streets and sidewalks for informational purposes.

SETTING

Open space in the vicinity of the project site consists of both private and publicly accessible plaza and sitting areas associated with buildings such as 100 First Street and 221 Main Street, and the Transbay Terminal building (see Figure 16, p. 73). The 100 First Street building includes an elevated sun terrace mid-block between Mission and Minna Streets, southwest of First Street. 221 Main Street includes a widened sidewalk and private (not publicly accessible) rooftop open space above the podium level fronting Main Street. The entrance to the Transbay Terminal building in front of the driveway loop is landscaped and would also be considered an open space area.

Proposed and approved open space in the vicinity includes Rincon Point Park, to be located between Howard and Harrison Streets and between the realigned Embarcadero Roadway and the Herb Caen Way pedestrian promenade along San Francisco Bay, about four blocks northeast of the project site. This approximately three-acre public open space is under the jurisdiction of the Redevelopment Agency and, pursuant to an agreement between the Port and the Redevelopment Agency, it will be privately developed as part of The Gap, Inc. headquarters building (under construction), and will be maintained by the Agency. The Gap headquarters project will also include an approximately 10,000-square-foot plaza on its north side, providing open space for tenants and visitors. Both of these open spaces are located in the Rincon Point-South Beach Redevelopment Area. The nearest open space owned by, or under the jurisdiction of, the Recreation and Park Department and subject to Planning Code Section 295 is Justin Herman Plaza, five blocks north of the project site at the foot of Market Street on The Embarcadero (see Figure 1, p. 32).

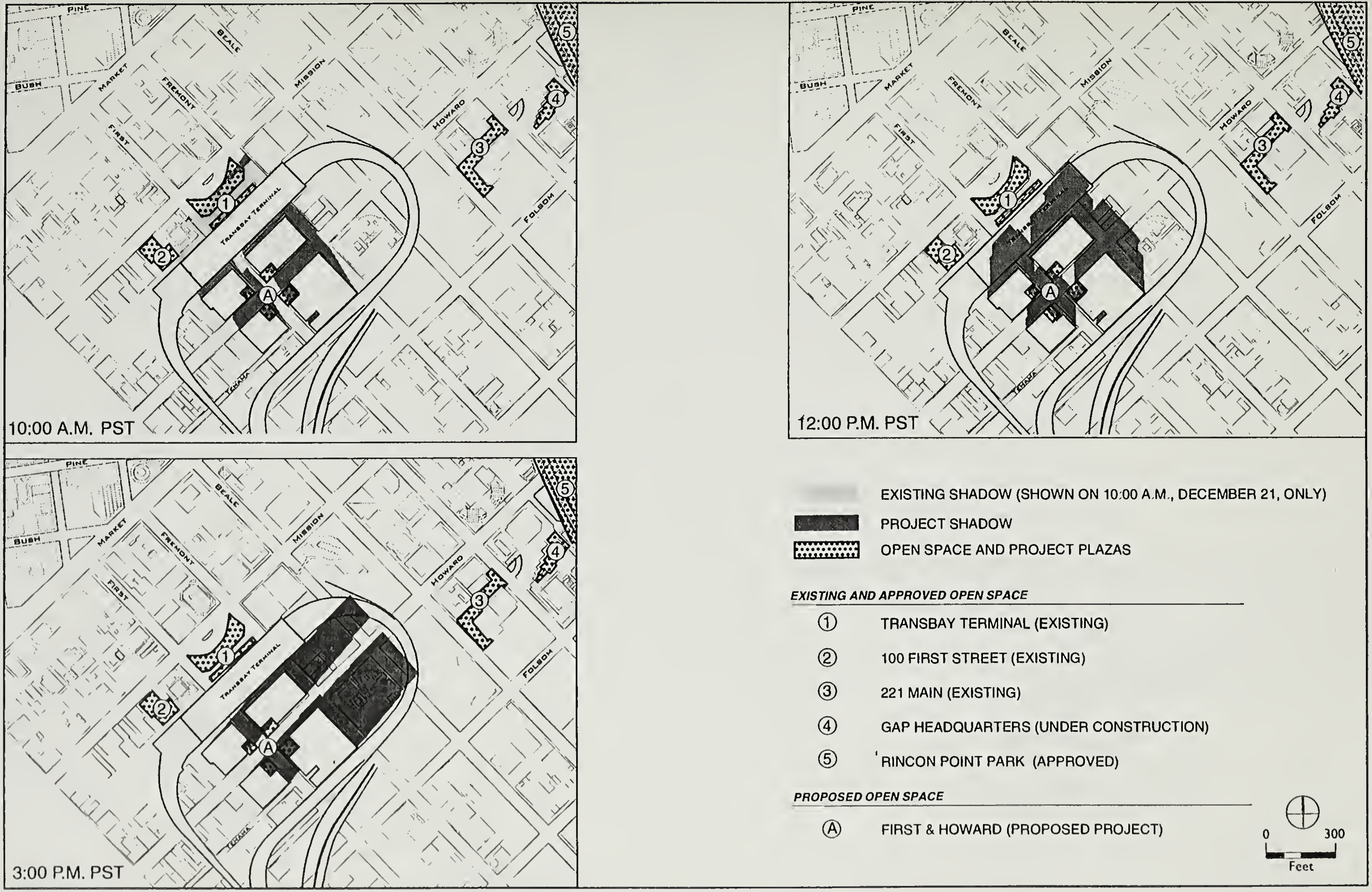
The existing, one- to five-story buildings on the project site cast shadows on streets and sidewalks in the project vicinity. These shadows do not reach nearby publicly accessible open space during mid-morning to mid-afternoon hours (10:00 a.m. and 3:00 p.m.).

IMPACTS

Planning Code Section 295, adopted in 1984 pursuant to voter approval of Proposition K, generally prohibits the issuance of building permits for structures over 40 feet in height that would cause significant new shade on open space under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission unless the Planning Commission, in consultation with the General Manager of the Recreation and Park Department, determines that the shade would not have a significant. To implement Section 295 in the downtown area, the City adopted guidelines that specify the extent of shading that would be considered a significant impact. The Initial Study found that the project would not have a significant shadow impact because the project would not shade open space under the jurisdiction of the Recreation and Park Department. For informational purposes, the discussion below addresses shadows on nearby publicly accessible open space that is not covered by Section 295.

Shadows on Non-Recreation and Park Department Open Space

The analysis includes shadow cast on streets, sidewalks, pedestrian areas, and open space in the area of potential project impact, as well as shadow on the open space to be created by the



EXISTING SHADOW (SHOWN ON 10:00 A.M., DECEMBER 21, ONLY)

▇ PROJECT SHADOW

▨ OPEN SPACE AND PROJECT PLAZAS

EXISTING AND APPROVED OPEN SPACE

① TRANSBAY TERMINAL (EXISTING)

② 100 FIRST STREET (EXISTING)

③ 221 MAIN (EXISTING)

④ GAP HEADQUARTERS (UNDER CONSTRUCTION)

⑤ RINCON POINT PARK (APPROVED)

PROPOSED OPEN SPACE

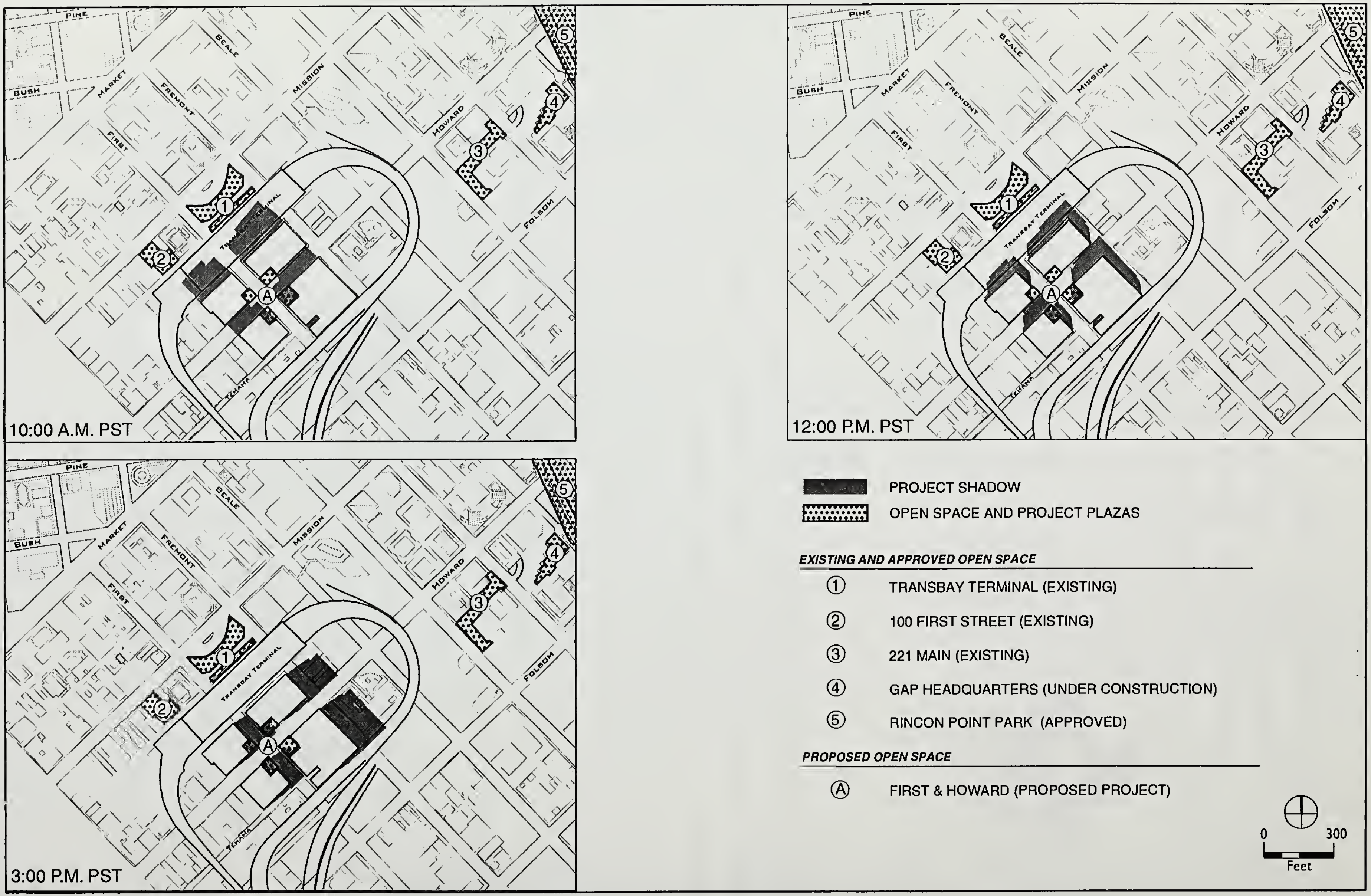
Ⓐ FIRST & HOWARD (PROPOSED PROJECT)

SOURCE: CADP, Inc.; EIP Associates

EIP ASSOCIATES

FIRST AND HOWARD

FIGURE 16: SHADOW PATTERNS - DECEMBER 21 (10 A.M., NOON, 3 P.M., PST)



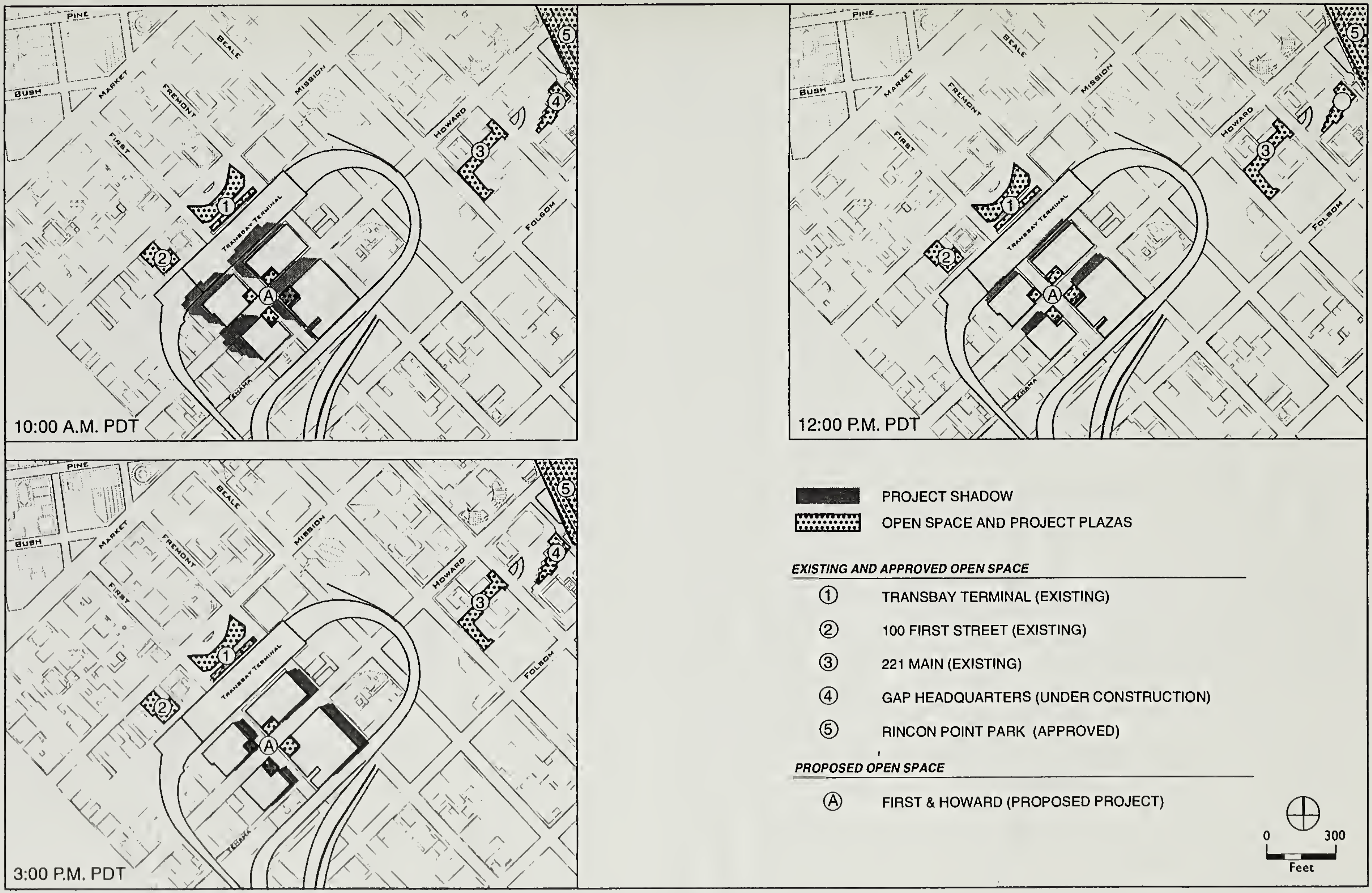
10:00 A.M. PST
12:00 P.M. PST
3:00 P.M. PST
PINE
BUSH
MARKET
FIRST
FREMONT
BEALE
MISSION
HOWARD
FOLSOM
TEHAMA
TRANSBAY TERMINAL
PROJECT SHADOW
OPEN SPACE AND PROJECT PLAZAS
EXISTING AND APPROVED OPEN SPACE
① TRANSBAY TERMINAL (EXISTING)
② 100 FIRST STREET (EXISTING)
③ 221 MAIN (EXISTING)
④ GAP HEADQUARTERS (UNDER CONSTRUCTION)
⑤ RINCON POINT PARK (APPROVED)
PROPOSED OPEN SPACE
Ⓐ FIRST & HOWARD (PROPOSED PROJECT)
0
300
Feet

SOURCE: CADP, Inc.; EIP Associates

EIP ASSOCIATES

FIRST AND HOWARD

FIGURE 17: SHADOW PATTERNS - MARCH 21 (10 A.M., NOON, 3 P.M., PST)


10:00 A.M. PDT
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PINE
BUSH
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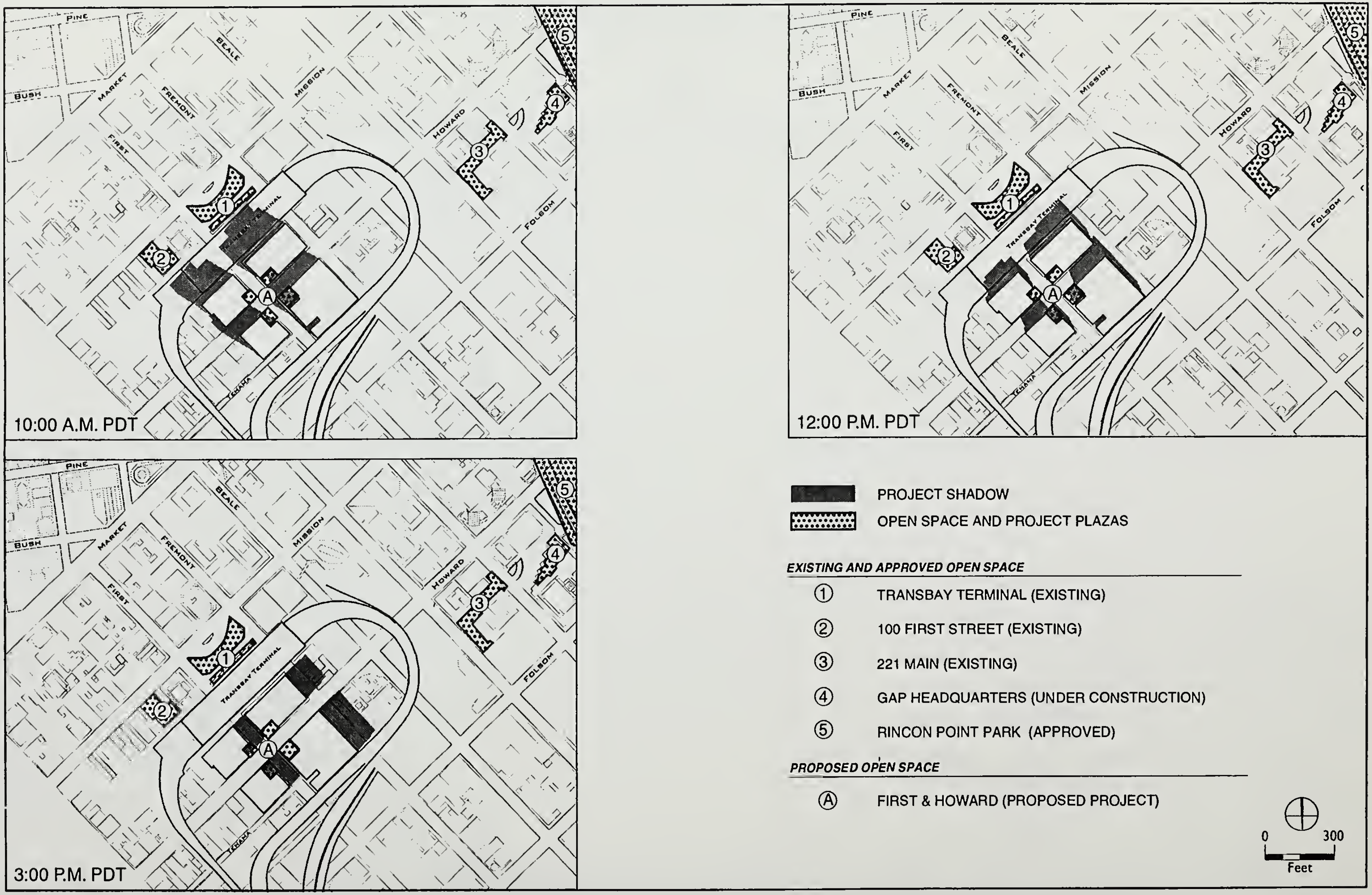
FIRST
FREMONT
BEALE
MISSION
HOWARD
FOLSOM
TEHAMA
TRANSBAY TERMINAL
① ② ③ ④ ⑤ Ⓐ
PROJECT SHADOW
OPEN SPACE AND PROJECT PLAZAS
EXISTING AND APPROVED OPEN SPACE
① TRANSBAY TERMINAL (EXISTING)
② 100 FIRST STREET (EXISTING)
③ 221 MAIN (EXISTING)
④ GAP HEADQUARTERS (UNDER CONSTRUCTION)
⑤ RINCON POINT PARK (APPROVED)
PROPOSED OPEN SPACE
Ⓐ FIRST & HOWARD (PROPOSED PROJECT)
0
300
Feet

SOURCE: CADP, Inc.; EIP Associates

FIRST AND HOWARD

FIGURE 18: SHADOW PATTERNS - JUNE 21 (10 A.M., NOON, 3 P.M., PDT)


10:00 A.M. PDT
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3:00 P.M. PDT
PINE
BUSH
MARKET
FIRST
FREMONT
BEALE
MISSION
HOWARD
FOLSOM
TEHAMA
TRANSBAY TERMINAL
PROJECT SHADOW
OPEN SPACE AND PROJECT PLAZAS
EXISTING AND APPROVED OPEN SPACE
① TRANSBAY TERMINAL (EXISTING)
② 100 FIRST STREET (EXISTING)
③ 221 MAIN (EXISTING)
④ GAP HEADQUARTERS (UNDER CONSTRUCTION)
⑤ RINCON POINT PARK (APPROVED)
PROPOSED OPEN SPACE
Ⓐ FIRST & HOWARD (PROPOSED PROJECT)
0
300
Feet

SOURCE: CADP, Inc.; EIP Associates

EIP ASSOCIATES

FIRST AND HOWARD

FIGURE 19: SHADOW PATTERNS - SEPTEMBER 21 (10 A.M., NOON, 3 P.M., PDT)

proposed project. Shadow patterns for the project are shown for representative times of the day during the four seasons in Figures 16 through 19. The diagrams show total shade from the project except for the 10:00 a.m. diagram on December 21; the 10:00 a.m. diagram distinguishes between existing shadow on the Transbay Terminal block and net new shadow from the proposed project. The 10 a.m. diagram for December 21 distinguishes between existing and net new project shadow because it is the only case when the project adds shadow to open space. Some streets and sidewalks are shaded by existing buildings on the project site and by nearby buildings. In all the shadow diagrams except 10 a.m. on December 21 in Figures 16 through 19, "project shadow" includes both areas that may be shaded already by existing buildings, plus net new shadow from the proposed project.

For orientation purposes, First Street and Howard Street split the middle of the project as an "X" along northwest/southeast and northeast/southwest axes. The figures identify the Transbay Terminal and 100 First Street, both one block north of the project site, as having the closest open space. Other nearby open space is three blocks and more to the northeast; it includes the open space at 221 Main Street, The Gap, Inc. plaza, and Rincon Point Park.

In general, the project would not cast shadows to the southeast or southwest, but would shade areas to the northeast and northwest. Most shadows would extend approximately one-half block, with the longest shadows cast a little further than one block to the northeast across Beale Street (3 p.m., December 21, see Figure 17). Shadows from the project buildings will not reach The Gap headquarters' open space, Rincon Point Park, the 100 First Street sun terrace or the open space at 221 Main Street between 10:00 a.m. and 3:00 p.m. Project buildings would shade the project's proposed corner plazas at various times of day.

December 21

At 10:00 a.m. on December 21, the proposed project plaza areas on the west would be completely shaded; the southeast plaza area would be mostly shaded; and the northeast plaza would be partially shaded. The project would shade about a 25-foot by 100-foot strip of the public space at the entrance to the Transbay Terminal building. Sidewalks adjacent to the project site at Howard, First and Fremont Streets would be shaded partially or totally. Beale Street sidewalks one block northeast of Fremont Street would not be affected by the proposed project shadow.

At noon, shade from the project would completely cover three of the proposed new plazas, and about half of the northeast plaza would be shaded. Project shade would not reach any other public or private open space. Sidewalks on Howard, First and Fremont Streets adjacent to the project site would be partially or totally shaded. Beale Street sidewalks would not be affected by the proposed project.

At 3:00 p.m., the project would shade completely the proposed project plazas on the south and partially shade the proposed project plazas on the north. Project shade would not reach public or private open space. The northern side of Howard Street and sidewalks would be shade free while the southern side would be shaded. Sidewalks on First and Fremont Streets would be shaded. Beale Street sidewalks would be fully shaded one-half block north and south of Howard Street.

March 21

At 10:00 a.m. on March 21, the proposed project plaza areas on the south would be shaded; the north plaza areas would not be shaded. At noon, project shade would completely cover the proposed southwest project plaza; the southeast plaza would be partially shaded; the northwest plaza would contain some shading; and the northeast plaza would not be shaded.

At 3:00 p.m., project shadow would completely shade the proposed project plazas on the west, mostly shade the plaza in the northeast corner, and partially shade the plaza in the southeast corner.

The project would not shade any existing or approved open space. Sidewalks adjacent to the project site on Howard Street would be partly shaded at 10:00 a.m. and at noon. Fremont Street sidewalks would be shaded at noon and 3:00 p.m., and First Street sidewalks would be shaded by 3:00 p.m.

June 21st

At 10:00 a.m. on June 21, the proposed project plaza area at the southeast corner would be completely shaded, and the southwest and northeast plaza areas would be partially shaded; the northwest plaza area would be in the sun. At noon, project shade would partially cover the two south proposed plazas; the two north plazas would be in the sun. At 3:00 p.m., project shadow would shade the northwest project plaza, and mostly shade the project plaza in the southwest corner; the northeast plaza would be mostly in the sun, and the southeast plaza would be entirely in the sun.

The project would not shade any existing or approved open space. Howard Street sidewalks would be partially in shadow in the morning and at noon. First Street sidewalks would be partially shaded in the morning and afternoon but not at noon. The majority of the sidewalks on the south side of Fremont Street would be shaded in the afternoon.

September 21

At 10:00 a.m. on September 21, the proposed project plaza area on the southeast would be completely shaded; the southwest and northeast plaza areas would be partially shaded, and the northwest plaza would be in the sun. At noon, project shade would completely cover the southwest project plaza area; the southeast plaza would be mostly shaded; the northwest plaza would be partially shaded; and the northeast plaza area would be in the sun. At 3:00 p.m., project shadow would shade the southwest proposed project plaza, and mostly shade the proposed project plaza in the northwest corner; the east plaza areas would be mostly in the sun.

The project would not shade any existing or approved open space. Howard Street sidewalks would be shaded in the morning and at noon; First and Fremont Street sidewalks would be shaded in the afternoon.

WIND

SETTING

U.S. Weather Bureau and Bay Area Air Quality Management District data show that westerly (i.e., from the west) to northwesterly winds are the most frequent and strongest winds during all seasons in San Francisco.[1] Of the 16 primary wind directions measured at a Weather Bureau Station at the United Nations Plaza (at a height of 132 feet), four directions occur most frequently and account for most of the strongest winds: northwest, west-northwest, west, and west-southwest. Calm conditions occur about 2% of the time. Average wind speeds are highest during summer and lowest during winter. The strongest peak winds, however, occur during winter, when speeds of up to 47 miles per hour (mph) have been recorded.[2] Typically the highest wind speeds occur during the mid-afternoon hours, and the lowest occur during early morning hours.

Pedestrian Comfort Criteria

Wind conditions affect pedestrian comfort on sidewalks and in other public areas. The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to 4 miles per hour have no noticeable effect on pedestrian comfort. With winds from 4 to 8 miles per hour, wind is felt on the face. Winds from 8 to 13 miles per hour disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. Winds from 13 to 19 miles per hour raise loose paper, dust, and dry soil, and disarrange hair. The force of winds from 19 to 26 miles per hour is felt on the body. With 26 to 34 miles per hour winds, umbrellas are used with difficultly, hair is blown straight, walking steadily is difficult, and wind noise is unpleasant. Winds over 34 miles per hour make it difficult to maintain one's balance, and gusts can blow a person over.

Large buildings can redirect wind flows around and down to street level, resulting in increased wind speed and turbulence at street level. To provide a comfortable wind environment for San Franciscans, the City established specific comfort criteria for evaluation of proposed buildings. The Planning Code specifically outlines these criteria for the Downtown Commercial (C-3) Districts and for the Rincon Hill area, Van Ness Avenue area, and part of the South of Market Area.[3] The entire project site is within the C-3-O (Downtown Office) SD (Special Development) zoning district. For this district, Section 148(a) of the Planning Code requires that structures be designed to meet pedestrian comfort criteria. In administering Section 148, the Planning Department requires a microclimate analysis, including wind tunnel testing for tall buildings, to determine design-specific impacts on pedestrian comfort and to provide a basis for design modifications to mitigate these impacts if significant. This EIR reviews wind impacts of the proposed project against the Planning Code's pedestrian comfort, seating area comfort, and hazard criteria.

The comfort criteria are based on pedestrian level wind speeds that include the effects of turbulence. These adjusted wind speeds are referred to as "equivalent wind speeds." Section 148 of the Planning Code establishes an equivalent wind speed of 7 miles per hour in public seating areas and 11 miles per hour in areas of substantial pedestrian use as comfort criteria. New buildings and additions to buildings may not cause ground-level winds to exceed these levels more than 10% of the time year round between 7:00 a.m. and 6:00 p.m.[4] According to the Planning Code, if existing wind speeds exceed the comfort level or when a proposed building or addition may cause ambient speed to exceed the criteria, new buildings and additions must be designed to reduce ambient wind speeds to meet these requirements, unless certain requirements are met for an allowable exception as described in Section 148. Compliance with Section 148 would be considered as part of the project review process. As described below under Impacts, the 11 mph pedestrian comfort criterion is currently exceeded at four of 28 test locations for existing conditions (including other approved and under-construction projects). There are currently no public seating areas on the project site.

Wind Hazard Criteria

Section 148 of the Planning Code also establishes as a hazard criterion an equivalent wind speed of 26 miles per hour for a single full hour per year. No building or addition would be permitted that would cause wind speeds to exceed the hazard level of more than one hour of any year. No exception may be granted to this criterion. As described further below, the hazard criterion is not exceeded under existing conditions at any of the 28 test locations.

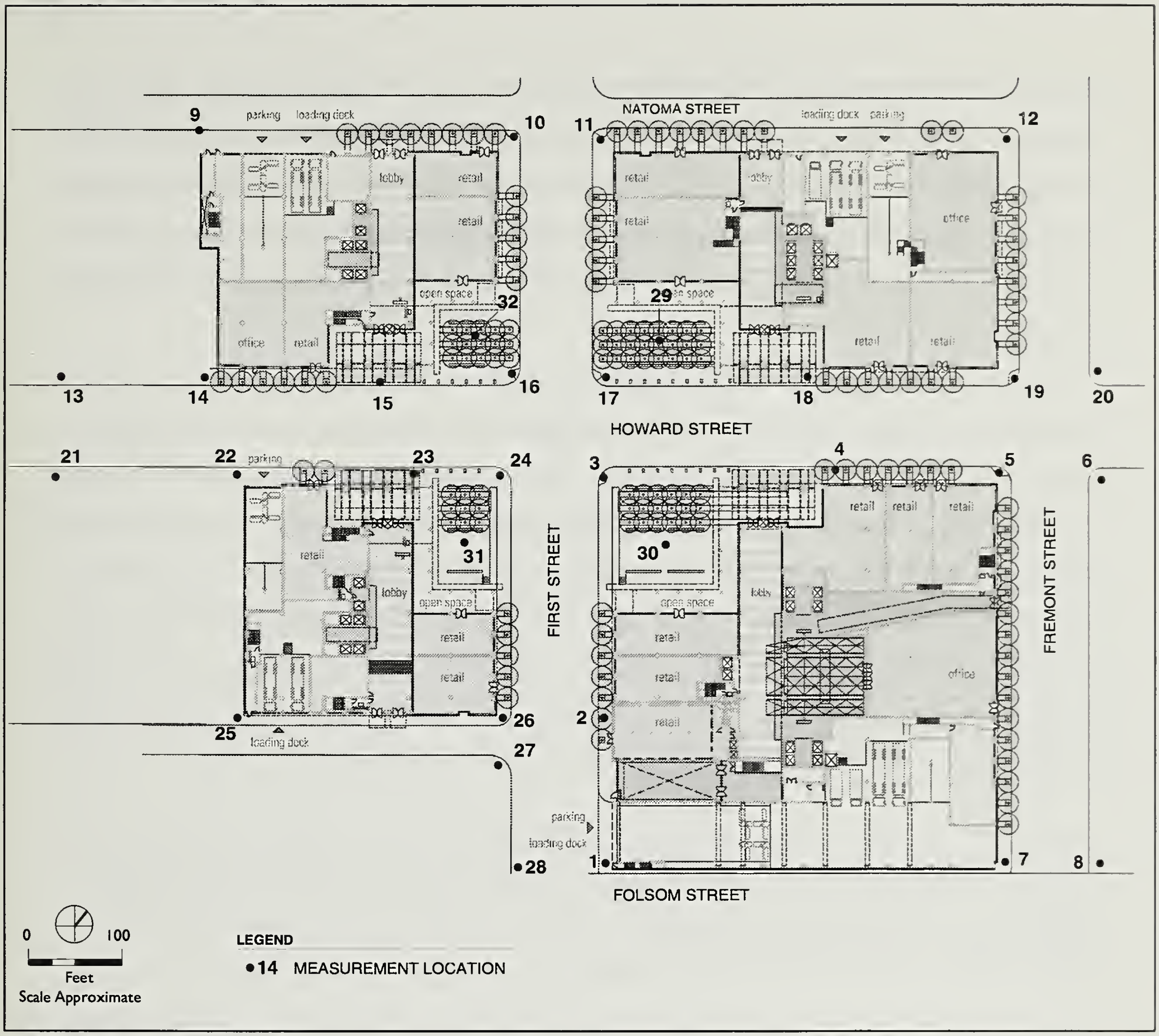
IMPACTS

Significance Criteria

A project that would cause exceedances of the comfort standards would not be considered to have a significant impact. A project that would cause equivalent wind speeds to reach or exceed 26 miles per hour for a single full hour of the year would be considered to have a significant impact.

Methodology

Using a wind tunnel and a scale model of the downtown San Francisco and South of Market areas surrounding the project site, wind speed measurements were made at 28 existing test locations and 32 project-condition test locations (see Figure 20).[5] The additional four locations were included in the new open space that would be added with the project. The final design of the new project plazas is not complete, but would be expected to include some public seating



SOURCE: EIP Associates, Donald Ballanti

FIGURE 20: WIND STUDY MEASUREMENT LOCATIONS

areas. The wind tunnel tests followed Planning Code Section 148 methodology. Tests were conducted for the project site under existing conditions, conditions with the proposed project, and conditions with the proposed project and other cumulative projects (proposed but not yet approved). A project alternative was also tested, as discussed in Chapter VI, Alternatives. The test report with a full discussion of methodology and results is included in Appendix B of the EIR.

The existing conditions included the existing conditions on the project site, along with the buildings and structures in the project vicinity including those approved or under construction. The approved, 24-story 524 Howard Street building adjacent to the project site was included in the existing conditions, as was 199 Fremont Street (under construction), the San Francisco Museum of Modern Art Garage west of Third and Howard Streets (under construction), and the recently-completed Hotel W at Howard and Third Street. Two buildings that are currently in review but not yet approved, 535 Mission Street and 554 Mission Street, both near Second Street, were included in the tests for the future cumulative conditions.

Wind speeds do not exceed 26 mph for more than one hour per year under the existing conditions. As shown in Table 2 of Appendix B, wind speeds would exceed the comfort criteria at four of the 28 points considered.

The four locations where the comfort criterion is currently exceeded are locations 8, 13, 14, and 27, shown in Figure 20. These are on the sidewalk on the east side of Fremont Street opposite the existing 244 Fremont Street building; at two locations on the north side of Howard Street, one near the approved 524 Howard Street project and the other near the western edge of the existing 500 Howard Street building; and on First Street at the southern corner of the Tehama Street intersection.

Project Conditions

The proposed project would not substantially change wind conditions in the area compared to existing conditions. The project would result in wind speeds similar to existing conditions;

they would range from 4 to 14 miles per hour over 10% of the time using the comfort criteria methodology (see Appendix B, Table B-2, p. 9). With the project, 5 of the 28 test locations would exceed the 11 mph pedestrian use comfort criterion, as compared to 4 test locations under existing conditions. Wind at the four new plaza locations would not exceed the 7 mph seating area comfort criterion.

Compared to the existing conditions, the project would remove two of the four existing exceedances and add three new locations exceeding the 11 mph pedestrian use comfort criterion. The pedestrian use comfort criterion would be met with the project at two sidewalk locations (8 and 27) that currently exceed the comfort criterion (on the east side of Fremont Street opposite project Area 2; and on First Street at the southern corner of the Tehama Street intersection). In the two other locations (13 and 14) where the comfort criterion is exceeded under existing conditions (both on the north side of Howard Street, one near the approved 524 Howard Street project and the other near project Area 4), winds would continue to exceed the criterion. Three new locations (10, 12, and 15 on Figure 20) would exceed the pedestrian use criterion with the project (one each at First and Natoma Streets and at Fremont and Natoma Streets just south of the Transbay Terminal; and one on the north side of Howard Street in the middle of the Area 4 frontage). The sidewalks of Howard Street in front of 524 Howard and Area 4 of the project generally experience the highest wind speeds with the project (between 12 and 14 mph).

Wind speed increases associated with the project would be greatest on the Howard Street sidewalk and Tehama Street sidewalk near Area 3 (locations 23 and 25) and near the Fremont Street underpass of the Transbay Terminal (location 12), where winds would increase from 7 to 11 mph and from 5 to 12 mph, respectively, using the comfort criteria methodology. As with the existing conditions, there were no exceedances of the 26 mph hazardous wind criterion with the proposed project, and thus, no significant wind impact.

Project Conditions plus Cumulative Development

Development of the proposed project with reasonably anticipated future projects would not substantially change wind conditions in the area when compared to existing conditions. The resulting wind speeds would range from 4 to 14 miles per hour using the comfort criteria methodology, similar to those with existing conditions and those with project conditions. With the project plus cumulative development, 5 of the 28 existing test locations would exceed the 11 mph pedestrian use comfort criterion. The number of exceedances with the project plus cumulative development would be the same as under existing-plus-project conditions; however, the locations of the exceedances would change. None of the four new plaza locations would exceed the 7 mph seating area comfort criterion.

Compared to the existing conditions, the project plus cumulative development would remove two (locations 8 and 27) of the four existing exceedances and add three new locations (15, 22, and 25) exceeding the pedestrian use comfort criterion. The pedestrian use comfort criterion would be met at two sidewalk locations that currently exceed the comfort criterion (on the east side of Fremont Street opposite Area 2 of the project; and on First Street at the southern corner of the Tehama Street intersection). In two locations where the comfort criterion is exceeded under existing conditions (Locations 13 and 14, both on the north side of Howard Street, one near the approved 524 Howard Street project and the other near Area 4 of the proposed project), winds would continue to exceed the criterion with project plus cumulative development. Three new locations (15, 22, and 25) would exceed the pedestrian use criterion compared to existing conditions (one on the north side of Howard Street in the middle of the Area 4 frontage; one on the south side of Howard Street at the west end of Area 3; and one on Tehama Street at the west end of Area 3). The exceedances identified for project conditions near the intersections of First and Natoma Streets and Fremont and Natoma Streets, just south of the Transbay Terminal, would not occur with the project plus cumulative development. The highest wind speeds with the project plus cumulative development (between 12 and 14 mph using the comfort criteria methodology) would occur at five locations on the sidewalks of Howard and Tehama Streets.

With cumulative development, wind speeds at the four new project plazas would not exceed the 7 mph criterion for seating areas. The increase in wind speed over existing wind associated with the project plus cumulative development would be greatest on Tehama Street (location 25), where increases from 7 mph to 12 mph would occur, and at Fremont and Natoma Streets (location 12), where increases from 5 mph to 11 mph would occur using the comfort criteria methodology. As with the existing conditions and the conditions with the project alone, there would be no exceedances of the 26 mph hazardous wind criterion with the project plus cumulative development, and thus, no significant wind impact.

NOTES - Shadow and Wind

1. The U.S. Weather Bureau data used in this analysis were gathered at a weather station atop the Old Federal Building at 50 United Nations Plaza during the years 1945 through 1950. During each of these years, data were taken hourly for 16 wind directions. The database, consisting of 32,795 hourly observations, is of sufficient size to provide a reliable estimate of future wind conditions in San Francisco.

2. E. Jan Null, Climate of San Francisco, NOAA Technical Memorandum, *NWS WR-126,* February 1978.

3. Planning Code, Section 148, 249.1(3), 243(c)(9), 263.11(c).

4. The Planning Code specifies the hours of 7:00 a.m. to 6:00 p.m. The available weather data cover the hours of 6:00 a.m. to 8:00 p.m. Therefore, observations from two additional evening hours and one additional morning hour are included in these data.

5. Donald Ballanti, Certified Consulting Meteorologist, *Wind Tunnel Analysis for the Proposed Wilson Cornerstone First and Howard Project,* San Francisco, prepared for EIP Associates, May 1999.

D. TRANSPORTATION[1]

SETTING

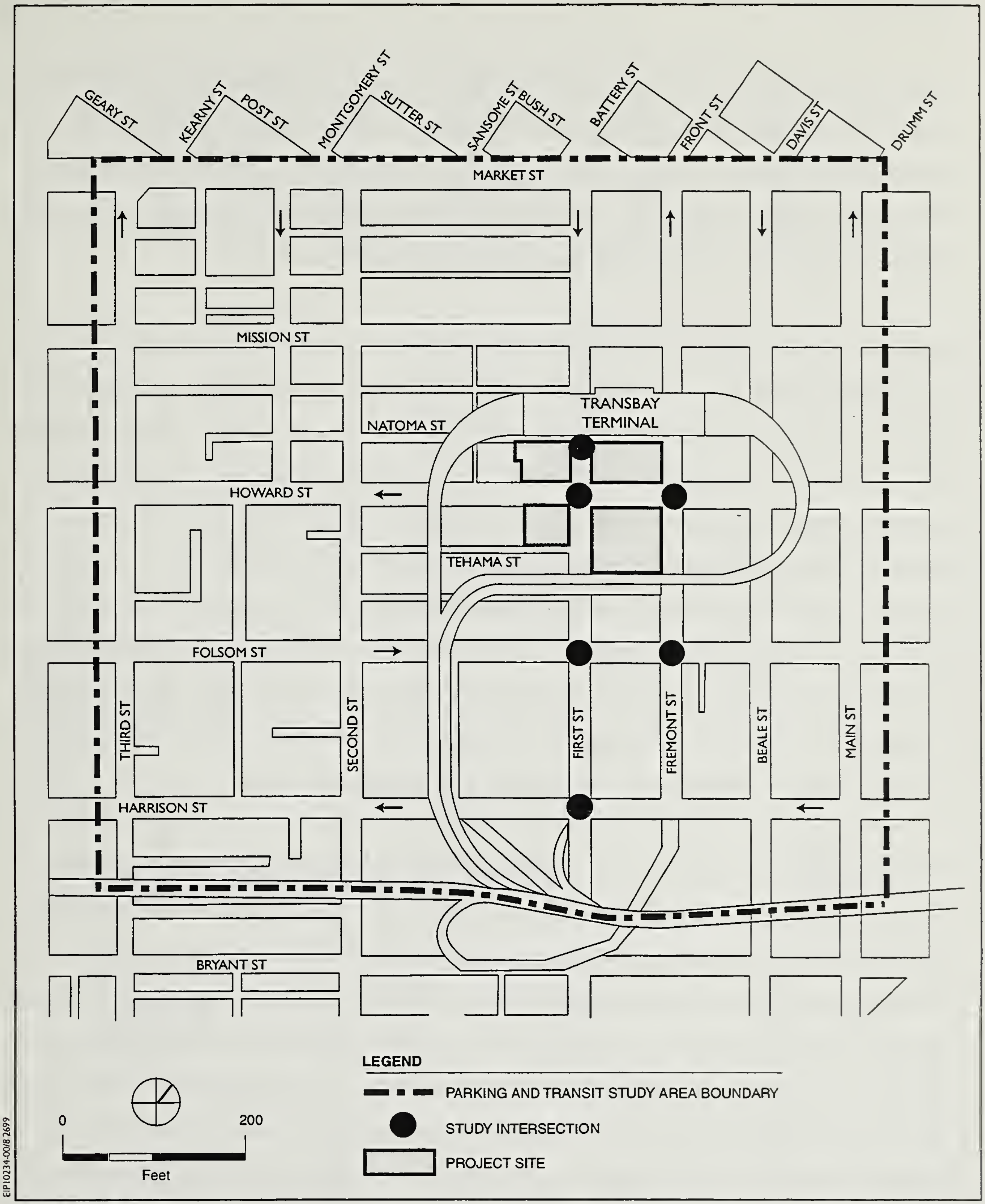
REGIONAL ACCESS

The I-80 freeway provides regional access to the project site and vicinity. This freeway is located approximately two blocks south of the project site between Harrison and Bryant Streets. Access to the site from the East Bay is via the Bay Bridge westbound Fremont Street off-ramp from I-80, which touches down on Fremont Street, south of Howard Street and immediately south of Area 2 on the project site. Access to I-80 and the Bay Bridge eastbound is via the on-ramp at the intersection of First and Harrison Streets. From the South Bay, access to the site is via the eastbound Fourth Street off-ramp from I-80 at the intersection of Fourth and Bryant Streets; access to the freeway is via the I-80 on-ramp at the intersection of Fourth and Harrison Streets. To the west I-80 terminates at its interchange with U.S. 101 which connects to the North Bay and South Bay; the North Bay also can be reached using surface streets to Van Ness Avenue (U.S. 101). Access to the South Bay is also available on I-280 via ramps at Sixth and Brannan Streets and from King Street. (See Figure 21, Transportation Study Area.)

LOCAL STREET SYSTEM

The project site fronts on both the north and south sides of Howard Street at its intersection with First Street. The site is bounded by Fremont Street on the east, by the Caltrans right-of-way and Tehama Street on the south, and by Natoma Street on the north (see Figure 21). First Street bisects the project site.[2]

All streets immediately adjacent to the project site, including Howard, First, Fremont, Natoma, and Tehama Streets, are one-way streets. Details about these streets and Mission



SOURCE: Korve Engineering

EIP ASSOCIATES

FIRST AND HOWARD

FIGURE 21: TRANSPORTATION STUDY AREA

Street are provided in Table 2. First Street has a bus-only lane between Market and Howard Streets. Two blocks south of the project site at Harrison Street, First Street leads to an eastbound Bay Bridge on-ramp. Howard Street is designated in the *San Francisco General Plan* as a Citywide bicycle route; a signed bicycle route is proposed to be added on the north side of the street, without removing any existing travel lanes.

Fremont Street provides the main access to downtown for vehicles using Bay Bridge exit ramps from the East Bay. During the morning commute period the segment of Fremont Street between Howard Street and the I-80 Bay Bridge off-ramp immediately south of the project site serves as a carpool drop-off area. When the signal at Howard Street is red, many carpool vehicles stopped in the queue discharge their passengers. Other vehicles turn left and discharge their passengers on Howard Street just west of Fremont Street, while still others continue north on Fremont Street and discharge passengers at the Transbay Terminal and at other points throughout the downtown. Caltrans plans to reconfigure the Bay Bridge off-ramp to bring it to the surface at Folsom Street at the Fremont Street intersection, while retaining the exit to Fremont Street. Changing Folsom Street to two-way between Second and Main Streets is under consideration by the Department of Parking and Traffic.

Natoma Street, on the north border of the project site, is one-way eastbound between New Montgomery and First Streets, and one-way westbound between First and Fremont Streets. Natoma Street is classified as a walk-through alley in *The Downtown Streetscape Plan.* Tehama Street is one-way westbound between First and Second Streets, and two-way west of Second Street. Tenny Place, a small alley offset south of Tehama Street, continues east of First Street, connects only to Sloan Alley, and ends halfway to Fremont Street. Neither Tenny Place nor Sloan Alley connect to any other street; both alleys are completely surrounded by property owned by Fritzi of California and operate much like private streets with little or no public use.

TABLE 2
STREETS ADJACENT TO PROJECT SITE

	General Plan Designations					
Street	**Transit**[1]	**Vehicular**[2]	**Pedestrian**[3]	**Bicycle**	**Number of Lanes**	**On Street Parking**
Howard Street	—	Major Arterial	---	Citywide Bicycle Route	Four: One-way westbound west of Fremont Street Fremont to Embarcadero two-way	Both curbs, prohibited north side 4:00-6:00 p.m.; prohibited both sides 6:00-9:00 a.m. Fremont to First Street
First Street	Transit Preferential Market to Howard	Major Arterial	Neighborhood Commercial between Market and Howard Streets	---	Four: One-way southbound	Both curbs south of Howard East curb only, between Howard and Market
Fremont Street	---	Major Arterial	Neighborhood Commercial between Market and Howard Streets	---	Three between Howard and Folsom Three north of Howard One-way northbound north of Folsom Two-way between Folsom and Harrison	Both curbs Except on west side between off-ramp and Howard Street Prohibited both sides 3:00 p.m. to 6:00 p.m.
Natoma Street	---	Pedestrian Oriented/ Vehicular Street	Walkthrough alley	---	One: One-way eastbound west of First Street One-way westbound east of First Street	Both curbs, west of First Street North side only east of First Street Vanpools only south side west of First Street
Tehama Street	---	---	---	---	One: One-way westbound between First and Second Streets	Both curbs
Mission Street	Transit Preferential	Major Arterial	Special level pedestrian street Neighborhood Commercial	---	Four: Two-way left-turns generally prohibited	Both curbs, prohibited 4:00 p.m. to 6:00 p.m.

Notes:

1. *San Francisco General Plan*, Transportation Element, Map 9, p. I.4.42.
2. Transportation Element, Map 6, p. I.4.32.
3. Transportation Element, Map 12, p. I.4.56; and Downtown Area Plan, Pedestrian Network Classification of Elements, under Objective 22.

Source: EIP Associates

Mission Street is a two-way, four-lane arterial that runs in an east-west direction between The Embarcadero and Van Ness Avenue, one-half block north of the project site. Other streets in the area near the project site area described in Table C.1 in Appendix C, Transportation.

INTERSECTION CONDITIONS

Existing traffic conditions were evaluated for the weekday p.m. peak hour (generally between 4:30 and 5:30 p.m.) conditions. Intersection turning movement counts were collected at six study intersections on Tuesday, February 9, 1999; these intersections are those closest to the project site and those leading to a key freeway ramp two blocks from the site. Operating characteristics of intersections are described by the concept of Level of Service (LOS). LOS is a qualitative description of an intersection's performance based on the quantification of average delay per vehicle. Intersection Levels of Service range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. Typically, LOS E and F represent unacceptable levels of service. A detailed description of LOS is included in Appendix C, Transportation.

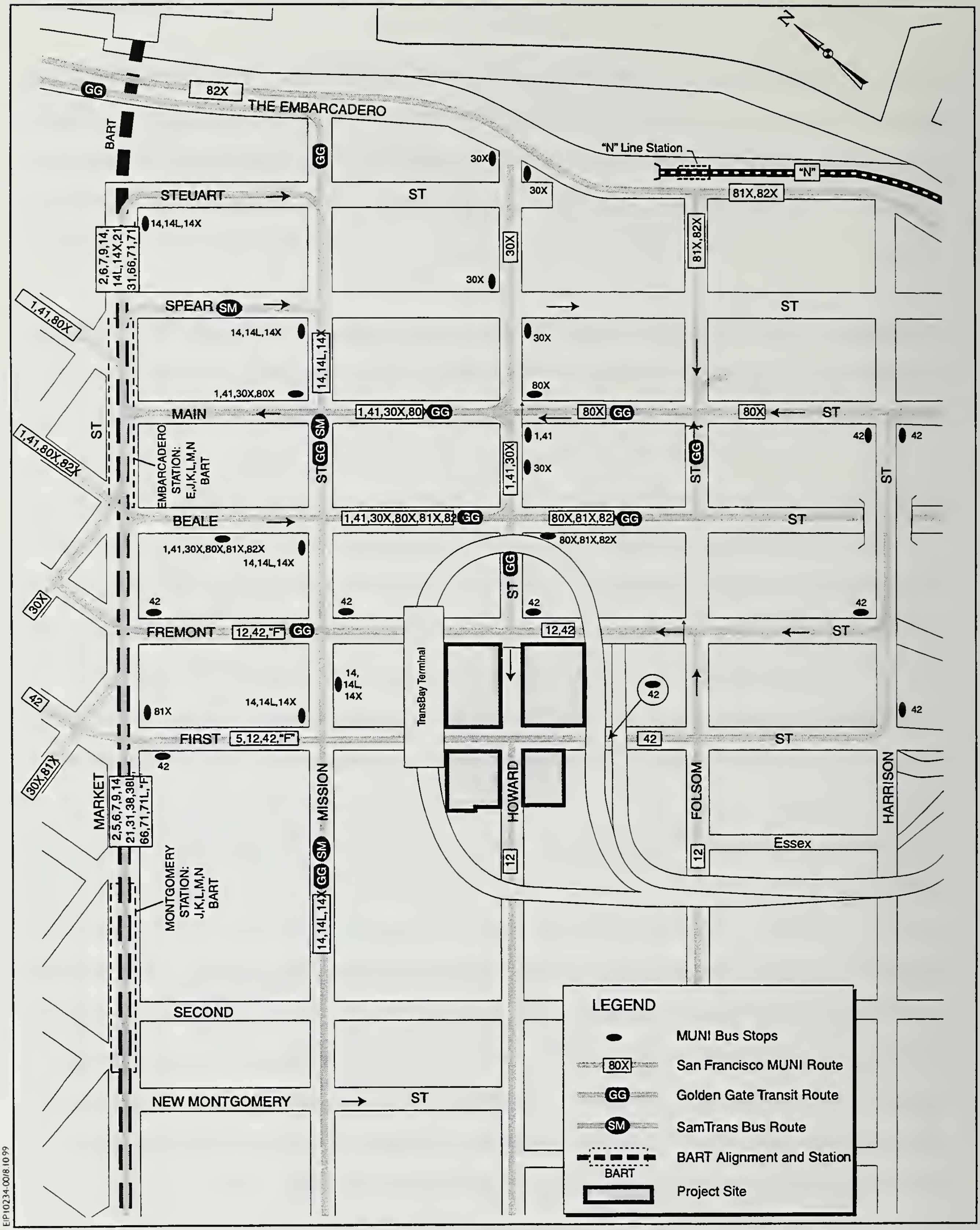
Table 4, p. 103 presents the results of the intersection LOS analysis for existing weekday p.m. peak hour conditions. As the table indicates, the intersections of Folsom Street and Harrison Street with First Street currently operate at LOS F, and the intersection of Howard and First Streets currently operates at LOS E. Vehicles from these intersections generally are bound for the Bay Bridge on-ramps at Harrison Street. The two Fremont Street study intersections currently operate at acceptable traffic conditions (LOS D or better) during the weekday p.m. peak hour. The unsignalized intersection of Natoma Street with First Street is shown in the table as LOS A/D; the average delay for all vehicles at the intersection is 1.8 seconds, using the standard intersection analysis model (see Appendix C for a description of unsignalized intersection levels of service). The LOS A designation is for the intersection as a whole. The 1.8 second-per-vehicle delay does not reflect the backups that occur on Natoma Street in the p.m. peak hour as vehicles attempt to enter the queue on First Street leading to the Bay Bridge on-ramp when the queue extends north of Howard Street. The westbound approach to First Street on Natoma Street operates with a delay of about 22 seconds per vehicle, or LOS D (delay and LOS have different correlations at unsignalized intersections than delay and LOS at signalized intersections, as shown in Appendix C).

Occasionally, traffic conditions on First Street and other nearby streets are worse than shown in Table 4, when incidents occur on the Bay Bridge or its approaches, or on the west- and southbound freeways, that cause traffic to back up on on-ramps and adjacent City streets.

TRANSIT

The project site is readily accessible by public transit, with 25 San Francisco Municipal Railway (MUNI) diesel and electric bus lines providing service within a two-block radius, and five MUNI Metro light rail lines in the Market Street tunnel two blocks to the north. The MUNI F-line, the historic streetcar line that runs along Market Street to Castro Street, is also located about one block north of the project site at its turnaround at the Transbay Terminal. (Figure 22 presents transit routes in the project vicinity.) The project site is located about equal distance from the Embarcadero and Montgomery Street Metro Stations, under Market Street north of the site.

The Bay Area Rapid Transit District (BART) operates regional rail transit service between the East Bay and San Francisco, and between northern San Mateo County and San Francisco. Within downtown San Francisco, BART operates under Market Street. The nearest BART station is the Montgomery Street Station. Entrances to the Montgomery Street Station are on the north and south sides of Market Street, just west of First Street. In addition, there are entrances to the Embarcadero Station from Market Street to the east of Fremont Street.



EIP10234-00/8.10.99

SOURCE: Korve Engineering

FIRST AND HOWARD

FIGURE 22: EXISTING TRANSIT NETWORK

The Peninsula Commute Service (Caltrain) provides rail passenger service on the Peninsula between Gilroy and San Francisco. The San Francisco terminal is at Fourth and Townsend Streets, about one mile south of the project site and is connected to downtown by MUNI service. Extension of Caltrain to a downtown terminus has been discussed for many years, and current proposals identify the terminus location as the Transbay Terminal. Additional planning and environmental analysis would be required prior to implementation of this proposal, and substantial funding would need to be identified.

SamTrans provides service throughout San Mateo County to downtown San Francisco. Within San Francisco, SamTrans patrons are permitted only to board buses heading outbound from the City and are permitted only to disembark from buses heading inbound to the City. In the vicinity of the project site, SamTrans operates nine routes along Mission Street to and from the Transbay Terminal.

AC Transit provides service in western Alameda County and western Contra Costa County, and between these parts of the East Bay and downtown San Francisco. Thirty-seven AC Transit routes serve the Transbay Terminal, immediately north of the project site; of these, 33 provide service only during commute periods.

Golden Gate Transit serves Marin and Sonoma Counties. In the vicinity of the project site along Mission Street, Golden Gate Transit provides 15 "transbay" bus routes and one "ferry feeder" route during the commute period. Golden Gate Transit also provides ferry service between the North Bay and San Francisco. Golden Gate feeder bus lines operate between the Ferry Building and Civic Center (line #67) and the Financial District (line #69) during the commute hours. During the p.m. and p.m. peak periods, ferries are operated between Larkspur and San Francisco and between Sausalito and San Francisco, from the Ferry Building, near Market Street and The Embarcadero, about seven blocks northeast of the project site.

The Blue and Gold fleet operates ferry service between San Francisco and Alameda/Oakland, Vallejo, Sausalito, and Tiburon. Service is provided from the Ferry Building and from Pier 41 at Fisherman's Wharf.

PARKING

Existing parking conditions were examined in the area bounded approximately by Market Street on the north, Third Street on the west, I-80 on the south, and Spear Street on the east, based on a reasonable walking distance from the project site.

On-Street Parking

On-street parking in the study area is mostly metered, short-term parking between 7:00 p.m. and 6:00 p.m. Public parking is not permitted on Market Street. Parking is restricted during peak travel times on some streets bordering the project site. On the north side of Howard Street west of First Street parking is prohibited from 4:00 to 6:00 p.m., and east of First Street parking is prohibited from 6:00 to 9:00 p.m. and from 4:00 to 6:00 p.m. On the south side of Howard Street between First and Fremont Streets parking is prohibited during the morning peak. No parking is permitted on the west side of Fremont Street south of Howard Street.

On-street parking conditions were qualitatively assessed during field observations. In general, on-street parking in the project vicinity is comprised of 30-minute meters north of Howard Street and one- or two-hour meters south of Howard Street. There are about 50 parking meters on streets abutting the project site, most with some restrictions on use during some part of the weekday. In addition, there are 8 van-pool meters on the south side of Natoma Street along the project site. Meters along the project site and in the parking study area are typically 95% to 100% occupied during mid-day periods.

Off-Street Parking

There are about 8,630 publicly available off-street parking spaces in the study area.[3] (This inventory does not include private parking spaces that are restricted for use by residents, customers, and employees of private businesses or public agencies.) About 75% of these spaces are located north of Folsom Street. North of Folsom Street, off-street parking includes both surface lots and parking structures; south of Folsom Street, parking is found in surface lots. The project site includes about 285 off-street parking spaces in surface lots on Areas 1 and 3 and in a two-level parking facility on Area 4 (see Figure 1, p. 32, for the locations of Areas 1 through 4 on the project site).

North of Folsom Street, parking is about 80% occupied during the weekday midday period (1:00 - 3:00 p.m.); south of Folsom Street, parking occupancy is about 86%. Typically, parking facilities approach their effective capacity when they reach an occupancy of about 90% of capacity. Occupancy is at about 81% in the entire 24-block parking study area, or approximately 6,990 occupied and 1,640 unoccupied spaces during the midday weekday period, with some facilities at or near 100% occupancy. At these levels, most facilities would be at or near capacity, and parkers would be required to search to locate an unoccupied space.

Development proposals in the vicinity of the project site and Caltrans' proposals to retrofit the west approach to the Bay Bridge will result in changes in parking supply and demand in the near future. These changes are discussed further in the impacts analyses, below.

PEDESTRIAN AND BICYCLE CONDITIONS

Weekday p.m. peak hour pedestrian counts were collected in March 1999 for the crosswalk at the intersection of First and Howard Streets and for the sidewalks on both sides of Howard Street between Fremont and First Streets. Volumes represent the peak 15 minutes within the p.m. peak hour (which generally occurs between 4:30 and 5:30 p.m.). Both crosswalks and sidewalks are evaluated using a "level of service" concept, similar to the evaluation of intersections.[4] Desirable conditions are considered to be LOS D or better. A detailed description of pedestrian LOS is included in Appendix C, Transportation. All study locations currently operate at LOS B or better during the weekday p.m. peak hour, which indicates that pedestrians are able to move freely, with only minor conflicts. Conditions were evaluated at the First and Howard Streets crosswalks because they would carry the majority of the project-generated pedestrian traffic. The analysis was carried out for the p.m. peak hour, representing one of the periods when the greatest number of pedestrians would be leaving the project site for transit or parking lots as they return home at the end of the day. Morning pedestrian conditions are discussed qualitatively for the Howard and Fremont Street intersection in relation to vehicular traffic as riders are discharged from their carpools at this location.

Howard Street is designated as Bicycle Route 30 for westbound travel between The Embarcadero and 11th Street. Approximately 50 bicyclists use Howard Street during the p.m. peak hour.[5] Folsom Street between The Embarcadero and Van Ness Avenue is also identified as a Citywide Bicycle Street and has a striped bicycle route on the south side of the street between Eleventh Street and Main Street.

IMPACTS

SIGNIFICANCE CRITERIA

Local Intersections

In San Francisco, a project typically is considered to have a significant effect on the environment if it would cause an intersection to deteriorate to an unacceptable level (from LOS D or better to LOS E or LOS F, or from LOS E to LOS F); interfere with existing transportation systems causing substantial alteration to circulation patterns or causing major traffic hazards; contribute substantially ("considerably") to cumulative traffic increases at intersections that would result in deterioration of traffic conditions to unacceptable levels; or contribute substantially to cumulative traffic increases at intersections already operating at unacceptable levels.

Transit

For transit, a project typically is considered to have a significant effect on the environment if it would cause a substantial project-specific or cumulative increase in transit demand which cannot be accommodated by existing or proposed transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in operating costs such that significant adverse impacts in transit service levels could result. The project also would have a significant effect on the environment if, when considering cumulative development in the area, it would contribute substantially to the deterioration of transit service or cause substantial conflict with transit operations.

Parking

Policies in the *San Francisco General Plan* emphasize the importance of public transit use and discourage the provision of facilities that encourage automobile use. In this context, and in the context of San Francisco's high level of transit accessibility, creation of parking demand which cannot be met by existing or proposed parking facilities would not be considered a significant environmental effect. Data on unmet parking demand is presented for informational purposes and may inform decisions regarding project approval. Secondary impacts may result from unmet parking demand, such as substantial changes in neighborhood character or creation of hazardous conditions caused by illegally parked cars.

Pedestrians and Bicycles

For this analysis, a project generally would be considered to have a significant effect on the environment if it were to result in substantial pedestrian overcrowding on public sidewalks or crosswalks creating an unacceptable pedestrian LOS; create hazardous conditions for pedestrians or bicyclists; or otherwise substantially interfere with pedestrian or bicycle accessibility.

TRIP GENERATION AND DISTRIBUTION

Project person-trip generation was calculated for both the weekday daily time period and the weekday p.m. peak hour (4:30 to 5:30 p.m.) time period and accounts for people traveling both to and from the project site.[6] The project is estimated to generate a total of approximately 28,670 daily person-trips, of which about 20,270 person trips would be generated by the office use, and about 8,400 by retail uses. During the p.m. peak hour, the project would generate about 2,060 trips, about 1,725 by office space and about 335 by retail space. Retail uses of the type proposed in the project, when located in downtown San Francisco, generally attract a substantial portion of their patronage from people who are already in the area on other business, either working in the project office space or visiting that office space. The retail space for the project is designed to serve primarily the project and its immediate environs, and would generally not include destination-oriented retail uses. Therefore, some trips from the retail space in the p.m. peak would duplicate trips from the office space that would also occur in the p.m. peak. As no adjustment was made for this potential double-counting, the trip generation used in the transportation analysis could be considered to be conservatively high. No deduction of existing trips was made in calculating trips generated by the project; therefore, the analysis overestimates by about 15% the total number of person trips generated in the p.m. peak hour.

Person trips generated by the project were assigned to modes of travel to determine the number of vehicle, transit, and walk trips that would be generated by the project (see Table 3). The project would generate a total of about 615 weekday p.m. peak-hour person-trips in automobiles; assuming varying numbers of persons per vehicle, depending on the land use, there would be about 450 vehicle trips during the p.m. peak hour. About 1,000 person trips from the project would be transit trips.

TABLE 3
PROJECT PEAK-HOUR TRAVEL MODE[a]

Travel Mode	Proposed Project	P.M. Peak Hour Person-Trips
Auto	29.80%	615
Transit	48.80%	1,005
Walk	12.10%	250
Other	9.30%	190
TOTAL (rounded)	100.00%	2,060

Notes:
a. Travel mode data is based on information in the *Citywide Travel Behavior Survey* for the C-3 district.

Source: Korve Engineering, September 1999

Over 50% of the p.m. peak hour trips generated by the project on all modes of travel would be expected to have a destination within San Francisco; about 22% would go to the East Bay, about 12% to the South Bay and about 11% to the North Bay. Fewer than 30% of the total p.m. peak hour person trips generated by the project would be by automobile. Of the vehicle trips generated, about 48.5% of the p.m. peak hour vehicle trips would have an origin or a destination within San Francisco; about 12.5% would go to the East Bay; about 28% would travel to the South Bay; and about 7% of the project-generated vehicle trips would go to the North Bay. An additional 4% of the vehicle trips would travel to locations outside of the immediate Bay Area. The proportions of vehicle trips going to a regional destination are different from the person-trip distribution because of the differences in mode split for the various destinations.

EXISTING PLUS PROJECT CONDITIONS

To isolate potential impacts of the project on traffic, transit use and parking, project-generated activities were added to the existing transportation conditions. The resulting "existing-plus-project" scenario does not include activities generated by other projects that are under construction or planned for the area surrounding the project site. These other projects are included in the analysis of cumulative conditions, discussed below beginning on p. 114.

Traffic

Intersection impacts were evaluated for weekday p.m. peak hour conditions with project-generated traffic added to existing traffic volumes. Table 4 presents the results of the intersection analysis in terms of LOS and seconds per vehicle of delay. All levels of service would remain the same as under existing conditions except at First and Howard Streets and at First and Natoma Streets, but project-related vehicle trips would increase delay at all of the six intersections studied.

The intersections of First Street at Folsom Street and at Harrison Street would remain LOS F under existing-plus-project conditions. For intersections that operate at LOS E or F, traffic volumes approach or exceed the capacity of the intersection. These intersections have excessive delays that are unacceptable to many drivers. The First and Howard Streets intersection would decline from LOS E under existing conditions to LOS F with project traffic. The intersection LOS at Natoma and First Streets, with project traffic, would change from A to B; however, vehicles on the westbound approach from Natoma Street to First Street would experience LOS F conditions, with delays of about 61 seconds per vehicle. Thus, the ability of drivers exiting Building 1 to enter First Street would be severely constrained, and some drivers could use the bus-only lane temporarily while waiting to enter the First Street queue. The project alone would not cause any intersection to deteriorate from an acceptable to an unacceptable level of service, but would cause the intersection of First and Howard Streets to further deteriorate from LOS E to LOS F. Therefore, the project would cause a significant impact at this local intersection.

Because the intersection analysis methodology commonly used does not account for queuing effects between a series of intersections, such as those along First Street leading to the Bay Bridge on-ramp, and because many study intersections would operate at unacceptable LOS E and F, a separate analysis was carried out to assess queue lengths on First Street between the on-ramp and the project site, and to determine whether congestion would spread as delays at

TABLE 4
P.M. PEAK HOUR INTERSECTION LEVEL OF SERVICE[a]

	Existing		Existing Plus Project		Future Year 2015 Cumulative[b]	
Intersection	**Delay (sec/veh)**	**LOS[c]**	**Delay (sec/veh)**	**LOS[c]**	**Delay (sec/veh)**	**LOS[c]**
First/Howard	52.9	E	62.5	F	21.1	C
First/Folsom	>60	F	>60	F	>45.7	E
Howard/Fremont	17.4	C	17.7	C	18.4	C
Fremont/Folsom	9.0	B	9.3	B	>60	F
First/Harrison	>60	F	>60	F	>60	F
First/Natoma[d]	1.8	A/D[e]	7.5	B/F[e]	>60	F

Notes:

sec/veh = seconds per vehicle delay

a. The 4:30 to 5:30 p.m. peak hour which occurs during the 4:00 to 6:00 p.m. peak period.

b. The future cumulative intersection analysis includes changes to the circulation system such as 2-way operations on Folsom Street east of Second Street and relocation of the First Street bus-only lane to Beale Street.

c. Level of Service (LOS) determined using the *1985 Highway Capacity Manual* (Updated 1994), Chapter 9.

d. The intersection of First and Natoma Streets is controlled by a STOP sign; all other intersections are signalized.

e. The first LOS designation is for the intersection as a whole; the westbound approach of this unsignalized intersection operates with considerable delay and is shown by the second LOS designation in each column.

Source: Korve Engineering, Inc., September, 1999

intersections increase. The queuing analysis is based on an assumed service level on the on-ramp to the Bay Bridge at First and Harrison Streets, and provides representative queues for this service level. Service levels vary on this ramp, depending on traffic on the Bridge and on the freeway approaches to the Bridge in San Francisco and the freeway exits from the Bridge in the East Bay. On days when service levels are worse than those assumed due to an incident such as a stall on the Bridge or freeways, queues would be longer than reported; on days with better service levels, queues would be shorter. The Department of Parking and Traffic estimates that incidents occur on the Bridge or its approaches about 25 to 35% of the time.[7] The assumptions used in the queuing analysis provide a means to compare queues among existing, existing-plus-project, and cumulative scenarios under typical operating conditions.

The results represent a typical snapshot in time during the p.m. peak hour at each study location.

Existing queues on First Street do not typically extend beyond the length of each of the three blocks between Harrison Street and Mission Street, although maximum queues on the blocks between Harrison and Howard Streets are over 500 feet long, filling over 80% of the capacity of the two lanes leading to the Bridge. Queues on First Street between Howard and Mission Streets extend up to about 360 feet, beyond the intersection of Natoma Street with First Street. Existing westbound queues on Howard Street from Main Street to First Street leading to the First Street on-ramp to the Bridge fill substantially less of the existing lane capacity, ranging from about 40% to about 75% depending on the location. The block between First and Fremont Streets has one additional westbound travel lane, and so has more capacity than the blocks between Fremont and Main Streets where there is an eastbound travel lane.

The results of the queuing analysis with project traffic show that the project would contribute to increased queues on First Street between Mission Street and Folsom Street, and would cause maximum queues in the most congested lane between Howard and Folsom Streets to reach 100% occupancy from the existing 83% condition. Vehicles would be expected to back up beyond the intersection of First and Howard Streets under these conditions, as reflected in the LOS F conditions shown above. Queues between Howard and Mission Streets would increase by about 150 feet, occupying about 80% of the length in the most congested lane as compared to 57% currently, and making it difficult for vehicles on Natoma Street to enter the queue, as noted above. Queues on Howard Street would remain the same or substantially the same as existing conditions and would not exceed 80% occupancy.

Vehicles exiting the project driveway from Building 2 potentially would have a difficult time merging into the queue on First Street and could cause vehicles to back up inside the parking area in Building 2. Vehicles on Natoma Street exiting from the project garages in Buildings 1 and 4 would be delayed when queues on First Street extend beyond Natoma Street, and at those times drivers would need to wait for an opportunity to move into the traffic stream on First Street. Vehicles waiting to enter First Street could constrict sidewalk areas and interfere with the efficient movement of pedestrians. Delays to motorists and pedestrians from vehicles leaving project garages, however, would not be a significant impact.

Vehicles from Buildings 1 and 2 waiting to enter the traffic queue could temporarily block the left lane on First Street during the p.m. peak period. This lane is an exclusive bus lane between Market and Howard Streets used by MUNI Route 42 and by some Golden Gate Transit buses, and is used by MUNI Route 42 between Howard and Harrison Streets. Vehicles blocking this lane could exacerbate queuing conditions and could delay bus operations. Mitigation measures discussed in Section IV.A, Transportation, would reduce this impact to a level of insignificance.

The driveway for Building 3 is designed to be entered and exited on Howard Street. The left-hand travel lane on Howard Street west of First Street receives little through traffic because the queue of vehicles in the left lane on Howard Street east of First Street waiting to turn left onto First Street discourages through traffic from using that lane. This is the lane that would be used by motorists leaving the Building 3 garage. Therefore, the driveway for Building 3 would operate at LOS B, with little delay.

Transit

The project would generate approximately 1,000 transit trips (80 inbound and 920 outbound) during the p.m. peak hour. Inbound transit service has considerable capacity available during the p.m. peak, unlike outbound service which is generally crowded with commuters. Therefore, the project transit impact analysis focuses on the 920 outbound transit trips.

Based on the project trip distribution, approximately 47% of the project-generated transit trips would use MUNI for trips either within San Francisco or to access regional transit operators located relatively far from the project site, such as Caltrain and ferries. The remaining 53% would walk directly to BART, AC Transit, SamTrans, or Golden Gate Transit buses.

MUNI service capacity was analyzed in terms of a series of screenlines. The concept of screenlines is used to describe the magnitude of travel from or to the downtown area and its vicinity, and to compare estimated transit volumes to available capacities in each transit corridor. Screenlines are hypothetical lines that would be crossed by persons traveling between downtown and its vicinity and other parts of San Francisco and the region. Four screenlines have been established in San Francisco, surrounding the downtown and vicinity, to analyze operational impacts of the proposed project on MUNI service: Northeast, Northwest, Southwest, and Southeast (see Figure C-2 in Appendix C, Transportation, for a map showing these screenlines). There are sub–corridors within each screenline, such as the Third Street corridor, which serves the northeast and southeast quarters of the City; the subcorridors are analyzed separately from the other lines serving a particular quarter of the City.

The screenlines schematically reflect the Maximum Load Point for each MUNI line which crosses one of the screenlines. For the analysis in this EIR, MUNI ridership measured at the four San Francisco screenlines and sub-corridors represents the peak direction of travel and patronage loads for the MUNI system, which corresponds with the p.m. commute outbound direction from the vicinity of the project to other parts of the City. The analysis is based on target rather than actual numbers of transit vehicles in service. In contrast to most other transit operators, MUNI's capacity standard of 1.0 includes not only seated passengers but also a substantial number of standees per vehicle (somewhere between 30% and 80% of seated passengers, depending on the specific transit vehicle configuration). Thus, MUNI screenlines at 100% of capacity operate under noticeably crowded conditions with many standees. Because each screenline includes several MUNI lines with many transit vehicles from each line, even when the overall ridership is shown to be substantially under 100% of capacity, some individual transit vehicles crossing the screenline during the p.m. peak operate at or above 100% of capacity and are extremely crowded while others operate under less crowded conditions. This crowding is exacerbated whenever target headways are not met through missed runs and/or bunching in service.

During the p.m. peak hour, the project would increase MUNI ridership at the screenlines in the outbound direction by about 415 riders. (Another approximately 20 MUNI riders would remain in the downtown area and would not cross any screenline while on MUNI.) At each sub-corridor, the capacity utilization would increase by approximately one to three percent. With the project, all screenlines and sub-corridors would continue to operate within the MUNI standard, with capacity utilization ranging from a low of about 60% across the Northeast screenline to 87% across the Southeast screenline on the lines outside the Third Street and Mission Street corridors. This level of use would not exceed the MUNI service standard of 100% of capacity, although some lines and some individual vehicles would continue to be extremely crowded. The project would be required to contribute funds to MUNI through the Transit Impact Development Fee ordinance.

The regional screenlines are established at the City boundaries for each of the regional transit carriers. Except for BART, the regional transit carriers have a service standard of 1.0, based on the seated capacity of the vehicle. BART has a performance standard of 115% averaged over the three-hour commute period (that is, about 15% of the total riders during the 3-hour peak period are expected to be standing).

Approximately 480 additional regional transit riders from the project would be distributed among the many lines operating during the weekday p.m. peak commute hour. BART riders would be distributed among four BART lines to the East Bay and the San Francisco Daly City/ Colma line to the Peninsula (about 250 trips). An additional approximately 80 BART trips would be made within San Francisco and would not cross a regional screenline. AC Transit riders would be distributed among 33 transbay routes to the East Bay (about 100 trips) and SamTrans riders would be distributed among nine bus lines to the South Bay (about12 trips). Approximately 20 Caltrain riders would commute from the Peninsula. Golden Gate Transit riders would be distributed among 26 basic and commuter bus routes to the North Bay (about 17 trips), and about 5 riders would take the Golden Gate Transit Ferries.

In general, the addition of project-related passengers on the regional transit systems would not contribute substantially during the p.m. peak hour in the outbound direction. The largest increase in ridership would be on BART, with approximately 220 additional passengers to the East Bay. All of the regional transit carriers, except BART, would continue to operate at less than 100% of capacity. Although BART to the East Bay would operate at over 120% of capacity during the p.m. peak hour, during which time some trains would be very crowded, the three-hour load factor would be 114% including project demand, within the BART service standard of 115% of capacity for the three-hour period. The project would add about 1.4% to existing BART East Bay ridership. For the foregoing reasons, increases in transit demand would not be considered a significant environmental effect.

Parking

The project would displace about 285 parking spaces in the existing public parking lots on the project site, and would provide about 1,233 valet parking spaces (about 760 self-park spaces) in the four project buildings. No parking is required under the Planning Code for buildings in the C-3-O Districts in downtown San Francisco. Section 204.5 of the Planning Code requires that a Conditional Use authorization be obtained for parking provided in excess of 7% of the building gross floor area, and the space used for parking above 7% of the gross floor area is included in the Floor Area Ratio calculation. The amount of parking proposed would exceed the 7% allowable parking space by about 850 valet parking spaces (or about 525 self-park spaces).

The project would generate a daily parking demand for approximately 1,230 parking spaces (290 short-term and 940 long-term spaces).[8] Adding the existing on-site parking demand for about 275 spaces, the total parking demand would be about 1,500 spaces. With about 1,233 valet parking spaces proposed in the project and taking into account the 285 on-site spaces displaced by the project, there would be a parking shortfall of about 270 spaces (or a shortfall of about 740 spaces if the project provided only 760 self-park spaces).

During the midday peak period, the parking facilities in the parking study area currently operate at approximately 81% occupancy (about 1,640 unoccupied spaces out of 8,625 total spaces). The project would add 1,233 valet spaces to the supply, and would displace 285 existing spaces, for a net total of about 9,575 spaces. Parking demand from the project, including both the new demand from new uses and those displaced from parking lots on the project site and assuming valet parking in the project garages, would reduce the number of unoccupied spaces to about 1,360 spaces, resulting in an occupancy of about 86%. If the project provided about 760 self-park spaces, occupancy would be greater than 86%. Effective capacity of a parking facility is approximately 90% of the total capacity. With parking occupancy in excess of 85%, the parking study area would approach its operational parking capacity, but project parking demand could be accommodated until there are reductions in the areawide parking supply (see the discussion of cumulative parking issues on p. 119).

Pedestrians

The project would generate over 1,250 p.m. peak hour pedestrian trips, including walk trips to and from the project and persons walking from transit stops to the project site. Pedestrians destined from the site would primarily use First Street to reach the Transbay Terminal, BART, and MUNI lines on Mission Street and Market Street; pedestrians would use Howard Street for access to other local bus lines.

The crosswalks at First and Howard Streets would continue to operate at acceptable levels of service (LOS A and B) during the p.m. peak 15 minutes with project pedestrian traffic. The additional pedestrian traffic from the project would change the east and west crosswalk LOS from A under existing conditions to LOS B and would continue to operate in free flow conditions.

The Howard Street sidewalks adjacent to the project site operate at LOS B during platoon periods (when groups of pedestrians arrive in bunches rather than spread out). The project would add about 55 and 35 pedestrians to the north and south sidewalks, respectively, during the p.m. peak 15 minutes. The sidewalks would continue to operate at LOS B with added pedestrian traffic from the project.

Additional pedestrian activity in the west crosswalk at Fremont and Howard Streets in the morning peak period could make it more difficult for vehicles using the Fremont Street off-ramp from the Bay Bridge to turn left onto Howard Street, and could slow the discharge of carpool passengers, creating longer backups on the off-ramp. If these backups on the off-ramp extended beyond the AC Transit exit to the Transbay Terminal, AC Transit buses could be delayed in reaching the Terminal to discharge passengers during the a.m. commute period more often than currently occurs. This impact is not expected to be a regular occurrence, and therefore would not be considered to be a significant conflict with transit service.

Bicycle Conditions

The proposed new bicycle route on Howard Street would not be affected by the proposed new buildings on the project site. One project driveway would be located on Howard Street, for Building 3; this building faces the south side of Howard Street, while the bicycle lane is proposed for the north side of the street. There are no other bicycle routes on streets that border the project site. Therefore, vehicles entering streets from the project driveways would not interfere with any bicycle lanes. The bicycle lane on Folsom Street would not be directly affected by the proposed traffic; bicyclists destined for the project site may make use of this part of the City's bicycle network.

The project would include a minimum of 37 bicycle parking spaces, distributed among the four buildings, and would provide shower and locker facilities in each building, as required by Sections 155.2 and 155.3 of the Planning Code.

LOADING

Each new building on the project site would include a loading area, with a total of 11 off-street loading docks, as shown in Table 5. Loading for Buildings 1 and 4 would be accessed from Natoma Street; for Building 2 from First Street; and for Building 3 from Tehama Street (see Figure 2, p. 35). According to assumptions and methodology in the Planning Department's *Guidelines for Environmental Review*, the project would generate about 165 delivery/service trips on an average weekday. The project would result in a peak demand for about 8 to 10 loading spaces among the four buildings, as shown in Table 5. Each project building would meet its peak hour of loading demand (generally from 10:00 a.m. to 1:00 p.m.).

Planning Code Section 153 requires provision of a total of 13 off-street loading spaces for the project as a whole; if calculated for each building, 15 spaces would be required as shown in Table 5. The project would need to provide additional loading space in order to meet the Planning Code requirements; alternatively, the project sponsor could request an exception from loading requirements under Planning Code Section 161(I).

CONSTRUCTION IMPACTS

Project construction is expected to begin in 2000 and be phased on a building-by-building basis. Construction of each building would take approximately 15 to 18 months, depending on the building. Demolition for each building would take about 2 to 3 months; excavation and foundation work about 1.5 to 2 months; the exterior structure and facade about 10 to 11 months; and interior finishes are anticipated to take approximately 2 months.

TABLE 5
PROJECT LOADING SUPPLY AND DEMAND

Building Number	Proposed Loading Supply (spaces)	Demand			Planning Code Loading Requirement [b] (spaces)
		Daily Truck Trips (spaces)	Peak Loading Hour [a] (spaces)	Average Loading Hour (spaces)	
Building 1	3	46.5	2.69	2.15	4
Building 2	4	59.3	3.43	2.74	6
Building 3	2	25.6	1.48	1.18	2
Building 4	2	32.2	1.87	1.49	3

Notes:

[a] The peak loading hour for office and retail is generally from 10:00 a.m. to 1:00 p.m. and is generally unrelated to p.m. peak hour used in other transportation analysis.

[b] San Francisco City Planning Code, Section 153, as calculated on a building-by-building basis; when calculated for the project as a whole, the Code requirement is 13 spaces.

Source: Korve Engineering, September, 1999

During the peak construction period for each of the buildings, approximately 200 workers would be on site on an average day. This would result in a temporary parking demand by these workers. Off-site parking arrangements would be made by the project contractor to meet this temporary parking demand. The addition of approximately 200 construction worker vehicles would affect the operating conditions at the study intersections. However, since these vehicles would be fewer than half of the number of vehicle trips generated by the project, impacts at the intersections would be less than those shown above during project operation.

It is anticipated that the average number of construction-related trucks would range from about 15 to 95 per day, depending on the construction phase. The peak construction period for truck trips would occur during the end of the demolition phase and the beginning of the foundation preparation phase, with approximately 95 trucks a day. Most of the construction truck activities would occur before 7:00 a.m. or between about 9:00 a.m. and 3:00 or 4:00 p.m., in order to avoid the peak commute periods. Construction truck traffic would cause a temporary lessening of the capacities of streets between the freeway ramps and the project site, due to the slower movement and larger turning radii of trucks. The reduction in capacity would slow movement of traffic, including MUNI buses. The reduction in capacity would be a temporary, short-term effect and would not be expected to occur on a daily basis during the 15-month construction period for each building.

If construction of one building on the project site were to overlap with construction of another building, construction truck traffic and construction worker vehicle traffic from both project areas would be greater than for construction of one building alone. While not presently proposed, if two buildings were under construction on approximately the same schedule, the number of trucks could double, up to about 190 trucks per day, during demolition and foundation phases, for about two to four months. There would be fewer than 190 trucks per day for overlapping construction activities during later phases of construction.

Construction staging is anticipated to occur within the project site, as well as on some of the adjacent sidewalks. When required and permitted by the Department of Parking and Traffic and the Department of Public Works, temporary pedestrian walkways would be constructed in adjacent curb lanes to maintain pedestrian access. This would temporarily reduce the number of on-street parking spaces available in the nearby area. Use of the curb lane for pedestrians on Fremont Street adjacent to Area 2 may not be appropriate, because the curb lane is a travel lane and is used by carpools to discharge passengers during the morning commute period. Use of the curb lanes on both sides of Howard Street west of Fremont Street could also interfere with carpool dropoff. On the north side of Howard Street west of First Street the parking lane is an additional travel lane during the p.m. peak period; use of that lane for a temporary pedestrian walkway would temporarily reduce the capacity of Howard Street during the p.m. peak. The east side of First Street has no peak period parking restrictions and so would not be affected by a temporary loss of the parking lane for construction staging.

Loss of the curb lane on the west side of First Street north of Howard Street would interfere with a right-turn only lane and could cause temporary extensions of queues north on First Street during the p.m. peak period. Because curb lanes would not always be available without interfering with traffic movement, in some cases pedestrians would be directed to use sidewalks on the opposite sides of the street during construction rather than a pedestrian walkway in the curb lane on the street. If more than one building on the project site were under construction concurrently, consultation with City departments would include ensuring that protected pedestrian walkways would be available on at least one side of each street.

There are no MUNI bus stops adjacent to the project site; therefore, no bus stops would be affected during construction activities. Any traffic congestion caused by loss of curb lanes during construction could slow MUNI buses temporarily.

Construction effects would be intermittent and temporary during the construction period. Therefore, these effects would not be considered significant. The potential disruptions and loss of vehicular and sidewalk capacity, however, would be of concern to those who use nearby streets and transit service. As with all projects proposed within the downtown area, the project sponsors and construction contractor(s) would meet with the Traffic Engineering Division of the Department of Parking and Traffic, the Fire Department, MUNI, and the Planning Department to determine feasible measures to reduce temporary traffic congestion and pedestrian circulation effects during construction of the project.

FUTURE CUMULATIVE TRANSPORTATION IMPACTS

The cumulative impacts analysis projected for the year 2015 is based on the *Transbay Redevelopment Area Plan EIR Transportation Study*.[9] The study area for the Transbay Redevelopment Plan EIR is generally bounded by Market, Spear, Bryant and Third Streets, and includes the project site. Several scenarios were evaluated for that study. The Variant 2 scenario is used in this EIR, because it proposes a new Transbay Terminal at the existing site, a scenario that appears to be most likely based on current planning information. Variant 2 assumes a number of changes in the transportation system: the Transbay Terminal would be reconstructed at its present location; the First Street transit-only lane between Market and Howard Streets would be relocated to Beale Street, providing an additional mixed-flow lane for First Street, and MUNI service would be rerouted to Beale Street; and Folsom Street east of Second Street would be converted to 2-way operation, with one lane westbound and three lanes eastbound; and the Fremont Street off-ramp from the Bay Bridge would be expanded to provide access to Folsom Street at Fremont Street. The *Transbay Redevelopment Plan Transportation Study* assumed land uses and an amount of development for the four blocks on which the project site is located that accounts for more than the proposed project, with greater trip generation than calculated for the proposed project. Therefore, the proposed project is accounted for in the 2015 future cumulative scenario.

Traffic

The development of future year 2015 conditions is based on the Metropolitan Transportation Commission (MTC) regional travel demand model, which is typically used to obtain estimates of growth in San Francisco and the nine-county Bay Area. The model is able to quantify shifts in travel patterns related to changes in roadway configurations, changes in land uses, as well as changes in modal split due to anticipated improvements to transit access, and accounts for other factors such as traffic congestion and parking costs.

The most recent MTC travel demand model incorporates the Association of Bay Area Governments (ABAG) *Projections '96* land use and socioeconomic database. These projections account for general growth in San Francisco. The ABAG *Projections '96* database in the MTC model was adjusted to reflect the amount of development anticipated for the Transbay Area, the Mission Bay Project Area, the Hunters Point Shipyard Redevelopment Plan, the Presidio and Treasure Island Base Reuse Plans, and development in the proposed Bayview Hunters Point Redevelopment Plan area by 2015. Those adjusted estimates provide the basis for future year 2015 traffic and regional transit conditions in this analysis, and are consistent with projections used for the San Francisco Giants Ballpark, Mission Bay, and Transbay Area analyses for the weekday afternoon peak hour prepared in 1997-98.[10]

Table 4, p. 103, presents the results of the future 2015 cumulative intersection LOS analysis for weekday p.m. peak hour conditions at the study intersections. As shown in the table, all study intersections except Fremont and Folsom Streets and Natoma and First Streets would operate at the same or better LOS than shown for existing-plus-project conditions. The Fremont and Folsom Streets intersection would change from LOS B under existing and existing-plus-project conditions to LOS F under 2015 cumulative conditions, because of the additional turning movements with a 2-way Folsom Street. As noted in the *Transbay Redevelopment Area Plan Transportation Study*, this would be an unavoidable cumulative impact with no feasible mitigation.[11] The unsignalized intersection of Natoma and First Streets would change from LOS B to LOS F under future cumulative conditions, due to the additional queuing on First Street that would cause substantial delays at all three approaches to the intersection. The intersection of First and Howard Streets would improve from LOS E under existing conditions to LOS C in 2015 under this scenario because, under the assumed changes in the transportation system in 2015, the proposed change to two-way travel on Folsom Street would accommodate some westbound traffic that would otherwise use Howard Street, and the capacity of First Street would be increased with the relocation of the exclusive bus lane.

If Folsom Street were to remain one-way in 2015, the intersection of Fremont and Folsom Streets would improve slightly, from LOS F to LOS E, but would continue to operate at unacceptable levels, with substantial delays compared to existing and existing-plus-project conditions at LOS B. Delays would also increase at Fremont and Howard Streets, from LOS C to LOS D, because some of the growth in westbound traffic that would use Folsom Street under the Transbay Area Variant 2, would be added to Howard Street if Folsom Street remained one way. If First Street were to remain in its current configuration, with an exclusive bus lane, congestion at the intersection of First and Howard Streets would be worse than projected.

The analysis of queues on First and Howard Streets under cumulative conditions shows that queues on First Street between Harrison and Folsom Streets would lengthen from 83% under existing conditions and 86% with project traffic to nearly 100% occupancy in the most congested lane leading to the Bay Bridge on-ramp. Between Folsom and Howard Street, the queue would already extend the full length of the block under existing-plus-project conditions; cumulative growth would cause greater spill through the intersection of First and Howard Streets and would cause the maximum queue to occur more frequently. The queue from Howard to Mission Street would occupy over 90% of the available lane-length with traffic from cumulative growth as compared to 80% with existing-plus-project traffic, and would affect the mobility of the additional drivers attempting to exit from Natoma Street. As noted above under the discussion of existing-plus-project conditions, drivers attempting to enter the queue from westbound Natoma Street may temporarily block the lane on the east side of First Street while waiting for an opening in the queue, exacerbating queuing conditions and delaying bus operations if bus operations were to remain on First Street, rather than being relocated to Beale Street. Mitigation measures in Chapter IV would address this potential impact.

Queues on Howard Street would increase more with cumulative traffic than with project-generated traffic. Under existing-plus-project conditions, the maximum queue would be 80%. The maximum queue on Howard Street between Fremont Street and Beale Street under cumulative conditions would fill 100% of the lane capacity, causing vehicles to spill across the intersection at Beale and Howard Streets. The project would contribute less than 5% to this condition, which is projected to occur whether or not the project was built and occupied. Other segments of Howard Street would reach 76% (Fremont to First Street) and 91% (Main to Beale Street) occupancy.

The project's contribution to cumulative traffic in the future would be considerable and would contribute to unacceptable levels of service at intersections in the traffic study area. Therefore, the project would have a significant cumulative traffic impact.

Transit

The projected growth in MUNI ridership by the year 2015 is expected to exceed the operating capacity for MUNI Northwest, Northeast and Southwest screenlines, ranging from 105% to 119% of capacity and creating unacceptably crowded conditions on most bus lines in these corridors, assuming no increases in operating capacity. Overcrowding would likely cause delays in MUNI service as many passengers would not be able to board overcrowded vehicles. These conditions are projected to occur whether or not the project is constructed, and the project would contribute less than 2% to the 2015 cumulative MUNI ridership and would contribute about 4% of the growth in MUNI ridership between 1999 and 2015. Growth from the proposed project would not substantially change the overall cumulative conditions on MUNI in the future, and therefore would not be considered to be a "considerable," or significant contribution to cumulative increases in transit demand.

Projected future regional transit ridership and capacity assumptions show that growth in East Bay ridership for the year 2015 would exceed operating capacities of both BART and AC Transit.[12] BART East Bay p.m. peak hour utilization would be about 126% of capacity and AC Transit would be 135% of capacity (assuming no increases in capacity). The project's contribution to cumulative transit ridership would be less than 1% on these regional transit systems, and the project alone would not contribute considerably to the peak-hour capacity conditions. Other regional transit service would operate within acceptable levels. Therefore, the project would not cause a significant cumulative increase in regional transit demand.

Parking

It is reasonable to assume that by the year 2015 development would displace certain surface parking lots in the project vicinity, including lots along Folsom Street that would be used by Caltrans for staging areas during seismic retrofit of the Bay Bridge (see discussion under Cumulative Construction Impacts, below, for more information about the Bay Bridge Retrofit Project). Although future development can be generally estimated, it is difficult to predict exactly where and on what site it will occur other than the specific projects listed below. Therefore, it is not feasible to determine all parking that may be displaced. The future parking analysis accounts for reasonably foreseeable development projects in the parking study area, including those at 85 Second Street, 554 Mission Street, 535 Mission Street, 524 Howard Street, 1 Second Street, 299 Second Street, 199 Fremont Street, 101 Second Street, the residential project on Natoma Street across from Area 4 of the project site, and the MOMA Garage at 147 Minna Street. The Bay Bridge Retrofit Project would permanently remove about 1,000 parking spaces from the parking supply in the parking study area (another approximately 200-300 spaces would be temporarily displaced during construction). The proposed project plus other identified development projects would displace an additional approximately 1070 parking spaces for a total displacement of about 2,070 parking spaces. Future development within the parking study area would create about 1,705 new parking spaces, for a net loss of about 365 spaces.

A summary of future parking supply and demand is shown on Table 6. The identified development in the parking study area, including the proposed project, would add a demand for about 3,640 parking spaces (2,410 from other projects + 1,230 from the proposed project) in the project vicinity. Accounting for existing demand in the study area, total demand would be about 10,630 spaces. Total supply, including that from the project, would be about 9,500, for a shortfall of about 1,130 spaces.

TABLE 6
CUMULATIVE PARKING DEMAND AND SUPPLY (Spaces)

	Supply	Demand	Surplus or (deficit)
Existing	8,627	6,988	1,639
Less displaced parking	(2,070)	---	(2,070)
Identified development	1,704	2,412	(708)
Proposed project	1,233	1,229	4
Net	*9,494*	*(10,629)*	*(1,135)*

Source: Korve Engineering, September, 1999; EIP Associates

With this anticipated parking shortfall, it would be relatively difficult to park in the nearby vicinity, which would impact parking conditions near the project site and near other development in the area around the project. Queues would form at area parking garage entrances on a more regular basis, and would disrupt traffic circulation in nearby intersections more frequently. Some drivers, however, would shift their travel mode to public transit given the lack of parking, and others may choose to visit the area at off-peak times, reducing the parking demand and related queues to garages. Any secondary impacts associated with parking shortfalls, such as queues at area garage entrances, would not be directly attributable to the proposed project, which would essentially meet its own parking demand.

Pedestrians and Bicycles

With cumulative growth in the future, additional pedestrians would use nearby sidewalks and crosswalks, but levels of service would not be expected to deteriorate below acceptable levels. Bicycle use would also increase, particularly with the addition of a bicycle lane on Howard Street; this increased use would not measurably affect intersection levels of service.

Construction

Several major construction projects are planned or being considered in the vicinity of the proposed project. Caltrans is in final design phases for a seismic retrofit of the Bay Bridge, a remodel of the Transbay Transit Terminal or construction of an entirely new terminal building is under study for the site across Natoma Street from the project site, the Fremont Street off-ramp from the westbound Bay Bridge is proposed to be rebuilt with an additional terminus at the corner of Fremont and Folsom Streets, and an extension of Caltrain from the existing Fourth Street terminal to the Transbay Terminal is under consideration.[13] In all cases, construction activities would take place adjacent to or near the project site. While some of these remain speculative, they are conservatively assumed here to occur in the same timeframe as construction of one or more of the project buildings. If construction of any of these projects were to occur after one of the project buildings were completed and occupied, project occupants would be temporarily disturbed by construction noise, construction-related traffic and air emissions. Therefore impacts would not be significant.

The Bay Bridge Retrofit project would remove about 1,200 to 1,300 parking spaces from the area near the project site; about 1,000 of these spaces would not be replaced following construction. This parking information has been included in the cumulative parking discussion, above. The City and Caltrans are preparing a transportation management plan for the retrofit project.

As part of the retrofit, Caltrans is planning to demolish the existing ramp leading from the Bay Bridge to Fremont Street immediately south of the project site. Demolition and construction activities for this project could affect the project by impeding access to Areas 2 and 3 of the project site; at the same time, construction of buildings on the project site could affect construction of the Fremont Street ramp, also by impeding access to the ramp construction site. Both projects would create temporary construction noise and dust, and construction-related traffic.

The Caltrain extension project could include a cut-and-cover tunnel parallel to Second Street from Folsom Street to just north of Howard Street, and then turn east and branch from two to six tracks as it enters the Transbay Terminal.[14] If the Transbay Terminal is rebuilt at the same time or prior to this project, the train would operate entirely underground in the area near the project site, but would be located near or adjacent to the property line of Area 4, under Natoma Street. Depending on the ultimate extension design and construction schedule, coordination with Caltrans staff, would be required with Building 4.

All of these projects, in combination with construction of the four buildings that are part of the proposed project, could create temporary cumulative construction impacts, depending on the timing of construction activities. Impacts would not be considered to be significant, but could be annoying to existing and future tenants and building owners in the project vicinity, as well as to occupants of any new buildings constructed on the project site. Construction managers for each of the projects would be expected to coordinate with Department of Public Works and MUNI staff to establish construction schedules, staging areas, sidewalk closures, and access locations, to minimize the temporary impacts.

INTERIM YEAR CONDITIONS

A number of projects are under construction, approved, or under review in the Transbay Area near the project site. If constructed, these projects, including the proposed project, would result in a net increase of over 3 million sq. ft. of office space, 70,000 sq. ft. of retail space, over 400 hotel rooms and over 800 residential units. This growth is not included in the existing-plus-project analysis, but is accounted for in the 2015 growth analyzed above. Although some of the identified projects may not be built and occupied, or may be delayed, they provide a reasonable, conservative estimate of growth that may occur in the same time frame as the proposed project. Impacts associated with these identified projects may occur in an interim year some time before 2015. Therefore, an additional “Interim Year” analysis was developed adding the identified development to existing conditions.[15] While a precise interim year cannot be established when all of these projects would be built and occupied, it is reasonable to use 2005 as an appropriate representation of an interim year. The circulation changes assumed for the 2015 future cumulative analysis were also assumed for the interim year analysis in order to provide a basis for comparing the two results.

Traffic volumes would increase by about 2% to about 15% in the area near the project site. Of the four intersections that are common to the project impacts analysis and the interim analysis, Fremont and Howard Streets would remain at the same LOS C in the interim year as under existing conditions. Fremont and Folsom Streets would change from LOS B to LOS D and would, therefore, continue to operate at acceptable levels in the interim year. First and Howard Streets would improve from LOS E to LOS C in the interim year, as is shown for 2015 for this intersection, because First Street would include an additional travel lane under assumed new circulation conditions as described for the year 2015 conditions. First and Harrison Streets would remain at LOS F for existing and both interim and 2015 future conditions.

MUNI would continue to operate within capacity in the interim year with the identified growth, including the proposed project. As discussed above, by 2015 additional growth would cause MUNI ridership to exceed the capacity of the system. Use of regional transit would increase by the interim year, but would be lower than that shown for 2015. With the exception of BART to the East Bay, regional carriers would have adequate capacity to handle the interim year growth. The 3-hour peak period would exceed BART's performance standard in the interim and is projected to be greater than conditions shown for 2015; this result occurs because a substantial increase in capacity planned by BART to be implemented by 2015 is not assumed to be available by the 2005 interim year, in order to provide a conservative analysis. With this assumption, cumulative growth through 2005 would have a temporary significant impact on BART capacity.

Parking shortfalls in the interim analysis year could be greater than in 2015, if the Bay Bridge Seismic Retrofit Project construction were still in progress, due to the temporary loss of several hundred parking spaces that are expected to be restored after construction is completed. Drivers would need to search longer or farther away for parking under these conditions. The San Francisco Transportation Authority is studying ways to alleviate potential parking problems during the Bay Bridge construction period through use of additional shuttles from transit stops and other means.

In summary, interim year intersection conditions would be worse than existing and existing-plus-project conditions assuming maximum project buildout, but generally somewhat better than future 2015 conditions; all transit services would have adequate capacity to serve increased demand except BART to the East Bay, where planned capacity increases might not yet be available; and parking shortfalls would be greater than in 2015 due to Bay Bridge retrofit construction. Cumulative impacts on BART in the interim period would be temporary, until planned capacity increases have been effected, and the project's contribution would not be considered "considerable" or significant. As explained above, parking shortfalls are not considered to be significant impacts, although they can result in secondary impacts, such as substantial changes in neighborhood character from spill-over parking. In general, faced with limited and/or expensive parking options, drivers will eventually change their mode of travel, will avoid coming to the area during peak periods, or will park further from their destination than anticipated. Any secondary impacts associated with parking shortfalls would not be directly attributable to the proposed project, which would essentially meet its own parking demand by supplying up to 1,233 valet parking spaces.

NOTES - Transportation

1. The information in this section is from the *First and Howard Street Transportation Study*, September 1999, prepared by Korve Engineering, Inc. This report is on file and available for public review at the Planning Department, 1660 Mission Street, Fifth Floor.

2. City streets south of and including Market Street are oriented northwest to southeast (e.g., Fremont and First Streets) and northeast to southwest (e.g., Howard and Mission Streets). To simplify the discussion of these streets, the convention of calling northwest-to-southeast streets "north-south" streets and calling

northeast-to-southwest streets "east-west" streets has been generally adopted by the City and has been used in this EIR.

3. Surveys of off-street parking supply and occupancy were conducted in the area around the project site for the San Francisco Giants Ballpark EIR in 1997 and 1996, and for a proposed sports facility carried out by Korve Engineering, Inc. in 1996, augmented by a field survey of selected parking facilities in the parking study area on January 28, 1998 conducted by Pittman & Hames during the mid-day peak (12:00 to 2:00 p.m.). This data was supplemented by a survey of on-site parking on February 9, 1999.

4. For crosswalk LOS, the calculations take into account width, length, pedestrian signal "green" time, and the number of turning vehicles. Operating conditions are described in terms of average square feet of crosswalk space per pedestrian, and are calculated for the "maximum surge," when the "WALK" phase of the signal begins and pedestrians from both sides of the street simultaneously enter the crosswalks. For sidewalk LOS, the calculations take into account within the width of the sidewalk any obstructions such as utility poles and street trees (called "effective sidewalk width"), and the service level is based on on pedestrians per foot of effective sidewalk width per minute. The analysis is carried out both for average pedestrian conditions and for platoon conditions, when pedestrians arrive in concentrated groups rather than approximately evenly spaced out.

5. Manito Velasco, San Francisco Department of Parking and Traffic, telephone conversation with Korve Engineering, May 10, 1999.

6. Person-trip generation for the project uses trip rates obtained from the *Guidelines for Environmental Review: Transportation Impacts (Guidelines)* published by the City and County of San Francisco, Planning Department, July 1991. Transportation analyses used the *Citywide Travel Behavior Survey (CTBS)* and the *Supplemental Tables to the CTBS*. Parking and loading demand analyses used methodologies provided in the *Guidelines*.

7. San Francisco Planning Department, *Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure EIS/EIR*, p. 298, Planning Department Case No. 92.202E & 94.060E, SCH #92083065, certified September 1996.

8. Long-term parking spaces are occupied by one car for over five hours; short-term parking spaces are used for shorter periods and are occupied by several cars during a typical day.

9. Korve Engineering, Inc., *Transbay Redevelopment Area Plan EIR Transportation Study*, Final Report, April 1998. A copy of this report is available for review at Planning Department offices, 1660 Mission Street.

10. Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum*, prepared for the San Francisco Redevelopment Agency, March 30, 1998. A copy of this report is available for review at Planning Department Offices, 1660 Mission Street.

11. Ibid., p. 142.

12. BART would operate with a three-hour performance standard of about 111%, within its 115% standard.

13. Funding for this Caltrain extension project has not been identified and additional environmental analysis would be necessary.

14. A Draft Environmental Impact Report/Environmental Impact Statement was prepared by the Peninsula Commute Service Joint Powers Board in March, 1997. Public hearings on the draft document were held, but the EIS/EIR has not been finalized. One alternative analyzed in this EIS/EIR would extend the tracks subsurface to the Transbay Terminal via the route described here.

15. Korve Engineering, Inc., *First and Howard Streets Transportation Study*, September 1999, Chapter 4, Section 4.3.

E. AIR QUALITY

SETTING

APPLICABLE PLANS AND REGULATIONS

Ambient Air Quality Standards

Federal, state, and local laws and regulations form the foundation for controlling air pollution. The federal Clean Air Act, including amendments of 1990, and the California Clean Air Act of 1988 specify that federal and state regulatory agencies set upper limits on the airborne concentrations of six criteria air pollutants. National Ambient Air Quality Standards exist for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead.[1] Reactive organic gases (ROG) and oxides of nitrogen (NO_x) are also regulated as precursor contaminants that react in the atmosphere to form ozone, and particulate matter is regulated as inhalable particulate matter less than ten microns in diameter (PM_{10}).

The federal and state standards for these pollutants are summarized in Appendix D. The standards are upper limits designed to protect all segments of the population including those most susceptible to the pollutants' adverse effects (e.g., the very young, the elderly, people weak from illness or disease, or persons doing heavy work or exercise).

Air Quality Management Plans

The federal Clean Air Act, as amended, and the California Clean Air Act provide the legal framework for attaining and maintaining the ambient air standards. Both the federal and state acts require that the California Air Resources Board designate as "nonattainment areas" portions of the state where federal or state ambient air quality standards are not met. Where a pollutant exceeds standards, the acts require implementation of air quality management plans that demonstrate how standards will be achieved. These laws also provide the basis for the implementing agencies to develop mobile and stationary source performance standards.

The Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for planning, implementing, and enforcing federal and state ambient standards in the Bay Area. During 1999, the BAAQMD is revising the region's State Implementation Plan (SIP) for ozone. A SIP must be prepared for the region because of exceedances of the federal ozone standard. The SIP is a compilation of plans and regulations that govern how the region and state will comply with the federal Clean Air Act requirements to attain and maintain the ozone standard. Along with the BAAQMD, the Metropolitan Transportation Commission and the Association of Bay Area Governments will also contribute to the SIP. The state ozone and PM_{10} standards are also exceeded in the region. Because of the ozone violations, the BAAQMD is required to prepare a Clean Air Plan to attain the state standard. Maintenance of the ozone standard is required to be addressed every three years in revisions of the plan. The *1997 Clean Air Plan* includes the specific measures to reduce ground level ozone by reducing emissions of ozone precursors.[2] No state plan is required to meet state PM_{10} standards. Local environmental plans and policies also recognize community goals for air quality. The *San Francisco General Plan* includes the 1997 Air Quality Element.[3] The objectives specified by the City include the following:

- **Objective 2:** Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan.
- **Objective 3:** Decrease the air quality impacts of development by coordination of land use and transportation decisions.
- **Objective 5:** Minimize particulate matter emissions from road and construction sites.
- **Objective 6:** Link the positive effects of energy conservation and waste management to emission reductions.

AIR QUALITY CONDITIONS

Climate

The San Francisco Bay Area's regional meteorological conditions are cool and dry in the summers and mild and moderately wet in the winters. A daytime sea breeze provides fresh air to the Bay Area, but also tends to cause temperature inversions by positioning cool surface air underneath warmer upper-air. The inversions limit vertical motion of pollution and cause pollution potential to be the highest in the sheltered valleys throughout the region and in the subregions that are not directly affected by the marine air entering through the Golden Gate.

The project site is near the bay shore of San Francisco's South of Market neighborhood and is provided with clean marine air that travels from the west over the low hills in San Francisco and carries pollutants eastward towards the interior of the bay.[4] Temperatures in San Francisco are moderated by the marine air and the proximity to the bay. Average summertime highs are in the 60s to mid-70s, and in the winter, average lows are in the 40s.[5, 6]

Regional Air Quality

The California Air Resources Board (CARB) compiles inventories and projections of CO, ROG, NO_2, SO_2, and PM_{10} emissions for the Bay Area. Table 7 presents a summary of the emissions inventory and trends of air pollutants for the Bay Area Air Basin and San Francisco County. Substantial reductions in CO emissions forecast to occur between 1996 and 2010 reflect the stringent emission controls that have been or will be imposed on motor vehicles and stationary sources. PM_{10} is forecast to increase, mostly due to the growth in motor vehicle travel in the Bay Area. SO_2 is also forecast to increase throughout the region due to projected increases in industrial activity. Control measures to reduce emissions of ozone precursors are shown in the BAAQMD's *1997 Clean Air Plan*.

TABLE 7
BAY AREA CRITERIA POLLUTANT EMISSIONS INVENTORY AND PROJECTIONS
(Tons/Day - Annual Average)

	CO	ROG/a/	NO_x	So_x	PM_{10}/b/
BAY AREA AIR BASIN					
1996					
Total Emissions	3,100	490	540	75	160
On-Road Motor Vehicle Emissions	2,300	240	300	4	8
2010 Forecasted					
Total Emissions	1,800	330	340	86	210
On-Road Motor Vehicle Emissions	960	76	160	4	6
SAN FRANCISCO COUNTY					
1996					
Total Emissions	240	42	38	7	9
On-Road Motor Vehicle Emissions	180	20	20	<1	<1
2010 Forecasted					
Total Emissions	140	30	25	10	19
On-Road Motor Vehicle Emissions	64	5	9	<1	<1

Notes:

a. Reactive organic gases (excluding emissions from natural vegetation). ROG and NOx react in the atmosphere to form ozone.

b. On-Road Motor Vehicle Emissions category in this table does not include paved road dust generated by traffic.

Source: California Air Resources Board, Emissions by Category 1999. Available at: www.arb.ca.gov/emisinv/eib.htm.

The nine-county San Francisco Bay Area Air Basin has a history of recorded violations of federal and state ambient air quality standards for ozone, carbon monoxide, and PM_{10}. Since the early 1970s, substantial progress has been made toward controlling these pollutants. The progress has led the area to attaining all state and federal standards except those for ozone and PM_{10}. The Bay Area is an ozone nonattainment area for state and federal purposes. For PM_{10}, the Bay Area does not meet the state standard, but the area does meet the federal standard.

Local Air Quality

The BAAQMD operates air quality monitoring stations in San Francisco at 10 Arkansas Street (at the foot of Potrero Hill) and at 939 Ellis Street (near the Civic Center). Either location would probably be representative of conditions in the project vicinity; however, the Ellis Street station monitors only carbon monoxide. Peak carbon monoxide concentrations observed at the Ellis Street station tend to be slightly higher than those observed at Arkansas Street.

Because the project site is located downtown, carbon monoxide concentrations would also tend to be higher than those observed at the Arkansas Street station. Ozone and particulate matter data at the Arkansas Street station show the following:[7]

- During the period of 1992 through 1998, the state 1-hour ozone standard and the federal 1-hour and 8-hour ozone standards were not exceeded on any day at the Arkansas Street station. During this period, state and federal standards were exceeded in the eastern part of the district and in the Santa Clara Valley.
- During the period of 1993 through 1997 at the Arkansas Street station, the state 24-hour PM_{10} standard was exceeded in no more than 10 percent of the samples per year, the federal 24-hour standard was not exceeded at all, and the state and federal annual standards were not exceeded at all. The federal standards were not exceeded in the district.

The regional and local air quality data show that the region has made considerable progress toward meeting the state and federal standards. At this time, the region does not meet ozone standards, and violations of the state and federal standards for ozone continue to persist. Pollutants tend to be carried away from San Francisco into the more sheltered areas of the region and cause violations of the standards there. In this manner, regional benefits will occur with efforts to control San Francisco's emissions.

Local Air Emission Sources

Traffic-related emissions occur throughout the area around the project site; most notable are the heavy volumes of traffic along the Bay Bridge connection routes and the Transbay Transit

Terminal ramps. Emissions due to traffic congestion dominate the localized air quality in the vicinity of the project. Because the project site is a mix of uses, small stationary sources of air pollutants from office and commercial activity in the project site vicinity consist of minor sources (e.g., water heaters, ventilation equipment, dry cleaners).

IMPACTS

STANDARDS OF SIGNIFICANCE

A project would have a significant effect on the environment with respect to air quality if it would violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The BAAQMD specifies the significance criteria as follows:[8] (1) the project impacts would be considered significant if they cause operation-related emissions equal to or exceeding an established threshold of 80 pounds per day of ROG, NO_x, or PM_{10}, or cause CO concentrations above the state ambient air quality standard; (2) the project impacts would also be considered to have a significant contribution to cumulative regional air quality effects if the project impacts exceed these standards. If project air quality impacts would not exceed the BAAQMD thresholds, the project still may be found to contribute to significant cumulative air quality impacts if the project is inconsistent with the local general plan's air quality element.[9]

METHODOLOGY

Regional emissions caused by project-related traffic are estimated using the CARB URBEMIS7G computer program.[10] URBEMIS assesses the region-wide impacts of proposed land use development based on daily vehicle trips provided by the project's transportation analysis.[11]

Localized CO concentrations near congested intersections are analyzed using Caltrans' CALINE4 program and the *CO Protocol* from the Institute of Transportation Studies. This guidance is used to evaluate "worst-case" air quality conditions at the most heavily-impacted intersections.[12,13] As recommended by the BAAQMD *CEQA Guidelines*,[14] worst-case conditions are considered by placing receptors in locations that yield maximum exposure and by assuming a stable atmosphere where dispersion of CO in the vicinity of the intersection would be minimal.

PROJECT EFFECTS

Regional Impacts

Full buildout of the proposed project (including Areas 1 through 4) would result in a total increase of nearly 5,050 vehicle trips per day. Based on URBEMIS7G modeling results, increased trips associated with the proposed development would generate approximately 99 lb/day of ROG, 109 lb/day of NO_x, and 32 lb/day of PM_{10}.[15] These emission rates are summarized in Table 8.

Because project development would result in mobile source operation emissions exceeding the BAAQMD's significance thresholds for ROG and NO_x, the project's contribution to regional emissions would be a significant environmental impact.

Mitigation measures identified proposed for the project in Section IV.A, Transportation, would require implementation of strategies to decrease vehicle trips and reduce congestion caused by the project. Incorporation of trip reduction measures would reduce these emissions, perhaps below the significance thresholds. However, the actual effectiveness of trip reduction measures is difficult to predict. Therefore, this analysis assumes that incorporation of the trip reduction measures would not be expected to reduce emissions below the significance

TABLE 8
ESTIMATED VEHICULAR EMISSIONS FROM PROJECT-RELATED TRAFFIC

Pollutant	BAAQMD Significance Threshold (lb/day)	Project Regional Emissions /a/ (lb/day)
Reactive Organic Compounds (ROG)	80	99
Nitrogen Oxides (NOx)	80	109
Particulate Matter (PM_{10})/b/	80	32

Notes:
a. Vehicle emissions in this analysis are based on 1999 fleets. Emissions in future years will decrease as a result of cleaner burning fuels and improved engine efficiency.
b. Particulate matter includes entrained road dust.

Source: EIP Associates, 1999. Emissions estimated with URBEMIS7G model.

thresholds. With this assumption, vehicular emissions due to full buildout of the project would cause an unavoidable significant air quality impact.

Localized Impacts

Using the URBEMIS7G methodology described above, the project would generate about 980 pounds per day of CO. The BAAQMD has established a threshold of 550 pounds per day, above which a localized CO analysis is recommended. Intersections affected by the project having a Level of Service (LOS) of D, E or F with project contributions were, therefore, analyzed for localized CO "hot-spots."

Four intersections are identified in the transportation analysis as having LOS E or F during either existing peak p.m. conditions or future 2015 peak p.m. conditions. The intersections of First and Howard Streets, First and Folsom Streets, Fremont and Folsom Streets, and First and Harrison Streets are each evaluated here for the effects of project-related and future predicted traffic congestion. The CALINE4 model is used to estimate CO concentrations for each of these intersections under existing conditions, existing-plus-project conditions, and future year 2015 cumulative conditions.[16] Table 9 shows that congestion at these intersections would generate maximum roadside concentrations of approximately 13 ppm of CO on a one-hour basis and 8.7 ppm of CO on an eight-hour basis. These concentrations would not exceed state or federal CO standards.

Modeled impacts are conservatively high in the existing-plus-project scenario because for this scenario vehicle fleet emissions are assumed to be equal to year 1999 fleet emissions. In reality, the project would be occupied after 1999. Because the fleet of automobiles and trucks in use in the region is continually retiring the higher-polluting vehicles, the baseline-plus-project impacts shown here are calculated using conservatively high emission factors. Because project development and cumulative development would not cause violations of the carbon monoxide standards, localized carbon monoxide impacts would be insignificant. No mitigation would be required.

Cumulative Impacts

The San Francisco Bay Area Air Basin is a nonattainment area for ozone. Ozone is created region-wide by atmospheric chemical reactions between reactive organic gases (ROG) and oxides of nitrogen (NO_x), in the presence of ultraviolet sunlight in warm temperatures.

Therefore, emissions of ROG and NO_x contribute to cumulative regional increases in ozone levels. The BAAQMD's planning efforts aim to reduce ozone levels while allowing growth to occur, and the BAAQMD *CEQA Guidelines* establish the criteria for identifying significant contributions to cumulative air quality impacts, as noted above under Standards of Significance.

Because the project individually would be expected to have an unavoidable significant impact on regional emissions, the project would also be considered to contribute significantly to

TABLE 9
LOCAL CO CONCENTRATIONS AT SELECTED INTERSECTIONS

	One-Hour Total CO Concentrations (ppm)[b]				Eight-Hour Total CO Concentrations (ppm)[b]			
Location	1-hr Standard[a]	Existing	Existing-plus-Project	Year 2015 Cumulative	8-hr Standard	Existing	Existing-plus-Project	Year 2015 Cumulative
First/ Howard	20 ppm	12.1	12.5	8.8	9 ppm	8.5	8.7	6.2
First/Folsom	20 ppm	11.1	11.9	6.8	9 ppm	7.7	6.5	5.0
Fremont/ Folsom	20 ppm	8.3	8.5	6.0	9 ppm	6.3	6.2	4.5
First/ Harrison	20 ppm	12.3	12.6	6.3	9 ppm	8.4	8.6	4.7

Notes:

a. The State one-hour standard is 20 ppm; the Federal standard is 35 ppm. The more stringent standard is reflected in the table.

b. Total concentrations are based on CALINE4 output including background CO concentrations.

c. Future concentrations are reduced compared with existing concentrations due to lower emissions factors which result from cleaner burning fuels and improved engine efficiency. Year 2015 conditions consider both existing roadway configurations and future plans to add two-way service to Folsom in the vicinity of First Street. The higher concentration for each future condition is shown here.

Source: EIP Associates, 1999.

cumulative air quality impacts. Having reached this determination, it is not necessary to consider the project's relationship to the Air Quality Element of the General Plan. Nevertheless, the project would not conflict with relevant objectives in the Air Quality Element, and no further analysis of cumulative impacts is necessary.

NOTES - Air Quality

1. National Ambient Air Quality Standards have been established for criteria pollutants, named for the "criteria" documents that justified their regulation.

2. BAAQMD, 1997 Clean Air Plan, and Triennial Assessment, adopted by the Board of Directors, December 17, 1997.

3. City and County of San Francisco, Planning Department, *Air Quality - An Element of the General Plan of the City and County of San Francisco*, July 1997.

4. BAAQMD *CEQA Guidelines*, Assessing the Air Quality Impacts of Projects and Plans, April 1996, Appendix D.

5. The NOAA-CIRES (National Oceanic and Atmospheric Administration - Cooperative Institute for Research in Environmental Studies) Climate Diagnostics Center. San Francisco Airport observations compiled between 1961-1990.

6. BAAQMD *CEQA Guidelines*, Assessing the Air Quality Impacts of Projects and Plans, April 1996, Appendix D, pp. D-14, D-15.

7. California Air Resources Board, Ozone Data Summary (1992-1998) and PM10 Air Quality Data Summaries (1993-1997). Available at www.arb.ca.gov/aqd/aqd.htm.

8. BAAQMD *CEQA Guidelines*, Assessing the Air Quality Impacts of Projects and Plans, April 1996, Section 2.3.

9. BAAQMD *CEQA Guidelines*, Assessing the Air Quality Impacts of Projects and Plans, April 1996, Page 18.

10. San Joaquin Valley Unified Air Pollution Control District, URBEMIS7G Computer Program User's Guide, Version 3.2 - Emissions Estimations for Land Use Development Projects, August 1998.

11. *First and Howard Street Transportation Study*, Final Report, prepared by Korve Engineering, September 1999.

12. California Department of Transportation, Division of New Technology and Research, CALINE4 - A Dispersion Model for Predicting Air Pollutant Concentrations Near Roadways, June 1989.

13. Institute of Transportation Studies, University of California, Davis, Transportation Project-Level Carbon Monoxide Protocol, Revised December 1997.

14. BAAQMD *CEQA Guidelines*, Assessing the Air Quality Impacts of Projects and Plans, April 1996, Table 10, p.35.

15. The URBEMIS7G model uses emission factors from the CARB EMFAC7G emissions model. Vehicle operating characteristics are determined by each land use type in the proposed project and the setting of the project. Default values recommended by BAAQMD *CEQA Guidelines* are used for the average trip length. Worst-case summer (ozone season) and winter (CO season) temperatures are as recommended in the URBEMIS7G User's Guide, August 1998.

16. According to the BAAQMD *CEQA Guidelines*, localized CO concentrations are analyzed if: (1) regional CO emissions caused by the project are greater than 550 pounds per day; (2) project traffic would impact an intersection or roadway link operating at, or cause one to operate at, Level of Service D, E, or F; or (3) project traffic would increase traffic volumes on nearby roadways having more than 100 vehicles per hour by 10% or more. Emission factors, meteorological conditions, and receptor locations are each recommended by the BAAQMD *CEQA Guidelines*.

F. HISTORIC ARCHITECTURAL RESOURCES

SETTING

This setting section includes information on the history, architecture and significance of existing buildings on the First and Howard Streets project site. Architectural surveys, designations, and evaluations completed for the site and vicinity, including Planning Code Article 10 and Article 11 listings, the 1976 DCP Citywide Survey, Heritage Survey, the Unreinforced Masonry Building (UMB) Survey, and other recognized surveys are summarized in this chapter.

PROJECT AREA

The project site is located in an area historically known as Happy Valley, bounded by First Street, Third Street, Mission Street, and Howard Street. First developed during the Gold Rush Period (1846-1860), Happy Valley became a working class and industrial area. Several foundries, the San Francisco Gas Company, and family residences developed in the area and established the South of Market area as the City's primary industrial, manufacturing, and shipping area during that period.

Between 1860 and 1906, the South of Market area bloomed as west coast port facilities were developed. The area near the project site became home to waterfront-related businesses, lumberyards, flour mills, warehouses, factories, and additional foundries producing mining equipment for use in the Nevada silver boom of the 1870s and machinery for steamships. Late in the 19th century, street improvements and fill of the marshy lands west of Rincon Hill encouraged industrial development of the area and altered the character and uses from industrial and mixed-use residential occupied by families to industrial and boarding houses and hotels occupied by single men and sailors.

After the Earthquake and Fire of 1906, the area was rebuilt for industrial and warehouse uses, substantially decreasing the area's residential character. The project site contains nineteen existing buildings comprising a cluster of small-scale, post-fire buildings in the Downtown/South of Market area. Most of the structures on the project site were built during the post-quake reconstruction period, 1906-1920. Later, construction of the San Francisco-Oakland Bay Bridge (1936), the Transbay Terminal (1939), I-280, and related street improvements removed entire blocks of buildings and industries from the South of Market area near the project site. The Embarcadero Freeway/Terminal Separator structures, formerly located to the south and east of the project site, were demolished following the 1989 Loma Prieta earthquake.

PROJECT SITE

A review of previous inventories and studies has been performed by Patrick McGrew Associates to determine the presence of historically significant architectural resources on, or in the vicinity of, the proposed project site.[1] As a result of this analysis, three existing buildings on the project site have been identified as historical resources: 231 First Street, 401 Howard Street, and 218 Fremont Street. The location of these buildings on the project site can be seen in Figure 1, Project Location, on p. 32. The history and architecture of these structures are discussed below.

231 First Street

The structure at 231 First Street was originally part of the Selby Shot Works, one of the City's most famous early businesses. The original date of construction is uncertain. The structure was rebuilt after the Earthquake and Fire of 1906 as the Thomson Machine Works building. It is a three-story, unreinforced red-brick masonry building with four bays of flat-arched, double hung windows on the upper floors. The street level, built to the lot line, includes the original storefront facade which has been stuccoed and whitewashed. The Thomson Machine Works specialized in the repair of auto and marine machines and lead smelting.

401 Howard Street

The N.H. Cook Belting Company building at 401 Howard Street is a two-story industrial building in the Mediterranean architectural style, popular in California between about 1915 and 1925. The building was built in 1917 by architects Ward and Blohme. The structure has a hipped, tile parapet and cement plaster exterior with limited decorative elements; a series of cartouches, ornamental tablets framed by scroll-like carving, can be seen above and between the windows. Large casement and industrial-sash windows are set in semi-circular arches in a regular pattern visible along the Fremont Street and Howard Street facades. The N.H. Cook Belting Company manufactured fire hoses, and belts for industrial machinery until after 1953.

218 Fremont Street

The building at 218 Fremont Street was originally built as the Philadelphia Storage Battery Company in 1925. It is a two-story reinforced concrete structure with decorative terra-cotta elements designed by architects Ashley and Evers. Paired terra-cotta pilasters extend the full height of the building and are arranged on the Fremont Street facade supporting a broad terra-cotta cornice across the width of the building. The original storefront has been replaced with modern glazing and doors.

Other Site Buildings

Other existing buildings on the project site, originally constructed between 1906 and 1935, are light-industrial buildings with large window areas and some architectural ornamentation. Structures on the project site are predominantly characterized by smooth concrete or brick facades, simple cornices, regularly spaced windows and masonry piers, and bulkheads below storefront display windows. These other structures on the project site include: 199 First Street; 201 First Street, the Selby Smelting and Lead Company Warehouse; 210 First Street, the Pacific Cash Register and Computer Company building; 221 First Street, the Selby Smelting and Lead Company building; 220-228 First Street, the Friedburg-Grunauer Company building; 237 First Street, the California Ink Company building; 208 Fremont Street; 224 Fremont Street, the Van Emon Elevator Company building; 236 Fremont Street, the Exact Weight Scale Company building; 244 Fremont Street, the Japanese Transfer building also known as the Gould National Battery Company building; 407 Howard Street, a structure formally associated with Thomson Machine Works; 501 Howard Street; 500-508 Howard Street, the Printing Arts and Crafts Building; 39 Natoma Street; and 10 Tenny Street, a fabric warehouse formerly occupied by the Selby Smelting and Lead Company.

ARCHITECTURAL SURVEYS

Architectural surveys provide information about existing properties that may be of value to a community. Designation or listing on a registry of cultural and/or historic resources may occur if a building is found to be of value; designated or listing can also serve to alert potential developers of the public's interest in such properties through review by public boards and commissions. There are a number of surveys and lists of San Francisco structures that are considered to have attained a degree of architectural, historical, and/or contextual importance.

Planning Code

Article 10

Article 10 of the Planning Code sets forth procedures regarding the preservation of sites and areas of special character or special historical, architectural or aesthetic interest or value such as officially designated City Landmarks and buildings included within locally designated Historic Districts.

None of the nineteen buildings located on the project site are listed under Article 10 as a City Landmark nor are they located within a locally designated Historic District. The boundary of the South End Historic District, designated as a locally significant historic district under Article 10, is three blocks south of the project site. The high concentration of warehouse structures in the South End Historic District, built between 1867 and 1935, represent a broad view of the development of industrial architecture, maritime history, and technology in response to the national, state, and local industrial growth of that period.

Article 11

The Downtown Plan, an Area Plan of the *San Francisco General Plan,* establishes ratings for buildings based on their architectural significance. The Downtown Plan identified Downtown Historic Buildings as Significant or Contributory, using a categorical rating system of I-V, and designated several groupings of buildings as Conservation Districts in the Downtown area. Conservation Districts include buildings rated I and II (significant) as well as buildings rated III and IV, which may be contributory or have contextual value while lacking individual distinction, and Category V, which are not designated as either significant or contributory. Article 11 of the Planning Code implements procedures for Downtown Plan policies regarding architectural resources, such as rated buildings and buildings in designated Conservation Districts within the C-3 District (the Downtown) of San Francisco. Article 11 of the Planning Code is intended to address buildings and areas "of special architectural, historical and aesthetic character."

Several buildings on the project site have been listed in Article 11. 231 First Street is listed in Article 11 as a Category I building. Under the *San Francisco General Plan*, Category I buildings are deemed to be of the "highest architectural and environmental importance - buildings whose demolition would constitute an irreplaceable loss to the quality and character of downtown" (p. II.1.23). 201 First Street, 221 First Street, 237 First Street, 236 First

Street, 244 Fremont Street, and 10 Tenny were all evaluated and given a rating of ‘V’, the lowest rating, denoting buildings of minor or no individual importance.

1976 Department of City Planning Citywide Survey

Between 1974 and 1976, the San Francisco Planning Department conducted a citywide inventory of the City’s approximately 170,000 structures to determine their architectural importance. The physical appearance of both contemporary and older buildings were surveyed but historical associations were not included in the study. An advisory review committee of architects and architectural historians determined that 10,000 of these buildings were eligible for inclusion in the survey based upon various factors including architectural design, urban design context, and overall environmental significance. These buildings represent roughly 10% of the City’s entire building stock. Buildings included in the survey are rated from a low of ‘0’ to a high of ‘5’. Three structures on the project site are rated in the 1976 Citywide Survey. 244 Fremont Street and 501 Howard Street are rated ‘0’. 237 First Street is rated ‘1’, a low rating of individual significance.

Heritage Surveys

A survey prepared by the Foundation for San Francisco’s Architectural Heritage (Heritage), published in 1979 as *Splendid Survivors*, assigned letter ratings to 790 buildings within the C-3-0 (Downtown Office) district for architecture, history, and environmental context. Primary and secondary survey areas were identified and examined. Within the four identified secondary areas, consisting of several thousand parcels, only those buildings with obvious visible merit were surveyed. The project site is located within the South of Market east Secondary Survey area.

The Heritage survey examined seven of the structures on the project site: 231 First Street was rated “B”, of major importance; 220-228 First Street, 237 First Street, 224 Fremont Street, 244 Fremont, and 501 Howard Street were rated “C”, of contextual importance; and 201 First Street and 221 First Street were rated “D”, minor or no importance.

UMB Survey

The San Francisco Planning Department compiled an inventory of the City’s unreinforced masonry buildings (UMBs) following the 1989 Loma Prieta earthquake. Over 2,000 structures were listed in the survey, entitled *A Context Statement and Architectural/Historical Survey of UMB Construction in San Francisco, 1850-1940.* The UMB Survey did not rate all of the buildings but compiled a table that documented ratings that already existed for the UMB buildings, such as the Heritage Survey and the 1976 Citywide Survey. A limited number of new evaluations were conducted where no previous survey ratings were available.

Eleven buildings on the project site are listed in the UMB Survey: 201 First Street, 210 First Street, 220-228 First Street, 221 First Street, 231 First Street, 237 First Street, 224 Fremont Street, 236 Fremont Street, 244 Fremont Street, 501 Howard Street, and 10 Tenny Place.

National Register and California Register

The National Register of Historic Places (National Register) is the nation’s master inventory of known historic resources. The National Register is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the National, State or local level.

Structures, sites, buildings, districts and objects over 50 years of age can be listed on the National Register as significant historic resources. However, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included on the National Register. The criteria for listing on the National Register include resources that:

A) are associated with events that have made a significant contribution to the broad patterns of history,

B) are associated with the lives of persons significant in our past,

C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or

D) have yielded or may likely yield information important in prehistory or history.

Three previous studies, the Historic Properties Survey Reports for the *SF-I-280 Freeway Transfer Concept Program* (1983), *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure* (1994), and the *CalTrain San Francisco Downtown Extension Project* (1996), included portions of the project site and evaluated reviewed properties for potential National Register eligibility.[2] Two of these reports identified properties on the project site as appearing individually eligible for listing on the National Register. In the opinion of those reports, 231 First Street and 401 Howard Street appear individually eligible for the National Register; 231 First Street appears eligible under Criterion A, associated with events that have made a significant contribution to the broad patterns of history; 401 Howard Street appears eligible under Criterion A and Criterion C, of significant architectural design. The State Historic Preservation Officer (SHPO) concurred with these determinations and thus both 231 First Street and 401 Howard Street have been determined eligible for the National Register. In addition, the SHPO concurred that 218 Fremont Street may become eligible for the National Register with additional research on the building's historical context. Other structures on the site, including 199 First Street, 201 First Street, 221 First Street, and 237 First Street have been determined to be ineligible for listing on the National Register by the State Office of Historic Preservation.

The California Register of Historical Resources is an authorative listing of the State's significant historical and archaeological resources. Any resource listed in or formally determined eligible for the National Register is automatically listed in the California Register of Historical Resources, pursuant to Section 4851(a) of the Public Resources Code. 231 First Street and 401 Howard Street are listed on the California Register of Historical Resources because they were formally determined eligible through a federal consensus determination.

IMPACTS

SIGNIFICANCE CRITERIA

A project is normally found to have a significant effect on the environment if it will substantially disrupt or substantially adversely affect a property of historic significance. California Environmental Quality Act (CEQA) Section 21084.1 states that "a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." A "historical resource" is defined as one that is listed in, or determined eligible for listing in, the California Register of Historical Resources, one that is identified as significant in a local register of historic resources, such as Article 10 and Article 11 of the San Francisco Planning Code, or one that is deemed significant due to its identification in an historical resource survey meeting the requirements of Public Resource Code Section 5024.1(g). A resource that is deemed significant due to its identification in an historical resource survey meeting the requirements of Public Resource Code Section 5024.1(g), is presumed to be historically significant unless a preponderance of evidence demonstrates otherwise.

A "substantial adverse change" is defined by CEQA Guidelines Section 15064.5 as "demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."

IMPACT ANALYSIS

The proposed project would demolish 18 of 19 existing buildings and would remove surface parking on the project site. 231 First Street would be retained and rehabilitated for retail use as part of the proposed project. Two buildings on the project site, 231 First Street and 401 Howard Street, have been determined by SHPO to be eligible for individual listing on the National Register as a result of a consultation under a federal program. In addition, the SHPO determined that 218 Fremont Street may become eligible with additional research on the building's context.

231 First Street

231 First Street, the Thomson Machine Works building, is listed as a Category I building, of highest significance, under Article 11 of the City Planning Code, has been determined eligible for the National Register, and is therefore included in the California Register. 231 First Street would be retained and rehabilitated as part of the proposed project. The project sponsor would be required to use rehabilitation techniques that are appropriate for the building via Planning Commission (and Landmarks Preservation Advisory Board) review of any proposed changes under Article 11 of the Planning Code. Thus, the project would not cause a substantial adverse change to the structure.

401 Howard Street

401 Howard Street, the H.N. Cook Belting Company building, was included in architectural evaluations in 1983, 1994, and 1996.[3] Both the 1983 and 1994 evaluations state that the H.N. Cook Belting Company building is a minor example of a small industrial structure in the Mediterranean architectural style which does not appear to be an important example of the style in San Francisco, is not a noteworthy work of the architects, Ward and Blohme, and does not exhibit architectural or historical significance which would make it appear eligible for the National Register. The 1996 Historic Property Survey Report for the *CalTrain San Francisco Downtown Extension Project*, however, determined the H.N. Cook Belting Company building appeared to be eligible for the National Register under both Criteria A and C, as an example of the City Beautiful movement applied to an industrial building. The

evaluation cites the high quality of design. The report further states that the H.N. Cook Belting Company building is the only known building in San Francisco which represents the belting industry for the transfer of steam energy to machinery of the industrial age, thus contributing to the broad patterns in our history. The State Office of Historic Preservation determined the structure to be individually eligible for the listing on National Register in concurrence with the 1996 report.[4] 401 Howard Street is therefore considered an historic resource under CEQA and demolition of the structure would be considered a significant adverse effect.

218 Fremont Street

218 Fremont Street was evaluated for the *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure EIR/EIS*[5] in 1995, and was determined ineligible for listing on the National Register by the State Office of Historic Preservation. However, in 1997, upon review of the property for the 1996 *Caltrain San Francisco Downtown Extension Project* Historic Property Survey Report, the SHPO concurred with the report preparers that 218 Fremont Street warranted a change in National Register status code from ‘6’ (determined ineligible for National Register listing) to ‘4S’ (may become eligible for the National Register as a separate property). This change in status code maintains that the building is not presently eligible for the National Register, although it may become so when additional information is available on its context as related to the nature of small manufacturing buildings of the period and the place of this structure among other surviving structures of its type. The 4S rating by the SHPO means that the building is “deemed significant” pursuant to Public Resources Code Section 5024.1 (g), and demolition of 218 Fremont Street would therefore be considered a significant adverse effect on an historic resource.

Other Site Buildings

The California Ink Company building at 237 First Street is an example of historic architecture associated with the San Francisco waterfront in the South of Market area. 237 First Street was given the lowest rating, 'V', not designated as significant or contributory, under Article 11. The Heritage Survey gave the structure a rating of 'C', of contextual importance, and it is listed in the UMB Survey. While the Historic Architectural Survey Report from 1994 concluded that 237 First Street appeared eligible for the National Register under Criterion A, as contributing to the broad patterns of history, the State Office of Historic Preservation made the determination that the structure is not individually eligible for the National Register in 1996, upon review of the Evaluation of Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure.[6] Therefore, demolition of 237 First Street would not be considered a significant adverse effect on historic resources.

Other buildings on the site which are listed on architectural surveys or inventories represent a group of early 20th-century buildings in the Downtown/Transbay Area. None of these other buildings meet the definition of an historical resource as set forth in CEQA Section 21084.1. Therefore, demolition of these structures would not be considered a significant adverse effect on architectural resources.

NOTES - Historic Architectural Resources

1. Patrick McGrew, *Background Study and Analysis: Buildings Located Within First and Howard Project Area, San Francisco, CA*, June 1999.

2. The Historic Architectural Survey Report as part of the Historic Properties Structures Report for the 1983 *SF-I-280 Freeway Transfer Concept Program*, prepared by Caltrans Chief Architectural Historian, John W. Snyder, did not identify any of the buildings located on the project site to be eligible for listing on the National Register. The Historic Architectural Survey Report, *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure*, prepared by Patrick McGrew Associates in 1994, identified structures at 232 First Street and 237 First Street as individually eligible for listing on the National Register; however, a letter from the State Historic Preservation Officer (SHPO), dated August 14, 1995, reversed this finding, formally determining the structures ineligible for listing. *CalTrain San Francisco Downtown Extension Project,* an Historic Property Survey Report prepared in 1996 by Dames and Moore architectural historian, Michael Corbett, identified 401 Howard Street as individually eligible for listing on the National Register. The SHPO concurred with this finding and formally determined 401 Howard Street eligible for individual listing in the National Register on October 2, 1996. Both the *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure* and the *CalTrain San Francisco Downtown Extension Project* reports were prepared as part of compliance with federal review for Section 106 of the National Historic Preservation Act; each of these reports reviewed portions of the project site (within the identified Area of Potential Effect for each report) to determine potential National Register eligibility.

3. John W. Snyder, Caltrans Chief Architectural Historian, Historic Architectural Survey Report, Historic Properties Structures Report for the *SF-I-280 Freeway Transfer Concept Program*, 1983. Patrick McGrew Associates, Historic Architectural Survey Report, *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure*, 1994. Michael Corbett, Architectural Historian, Dames and Moore, Historic Property Survey Report for the *CalTrain San Francisco Downtown Extension Project,* 1996.

4. John Thomas, California Office of Historic Preservation, telephone conversation with EIP Associates, July 19, 1999. SHPO formally determined 401 Howard Street eligible for listing on the National Register on October 2, 1996.

5. U.S. Department of Transportation Federal Highway Administration, The State of California Department of Transportation, and the City and County of San Francisco Planning Department, Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation of *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure,* September, 1996.

6. U.S. Department of Transportation Federal Highway Administration, The State of California Department of Transportation, and the City and County of San Francisco Planning Department, Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation of *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure,* September, 1996.

G. GROWTH INDUCEMENT

Growth inducement under CEQA considers the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.[1] Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). This section summarizes the project's direct growth in employment, describes associated induced growth, and notes that the project would not remove obstacles to population growth.

The project would include total development of about 1,120,000 gross square feet of office space and 56,000 gross square feet of retail space for food services, business services, and other incidental and support uses. It would demolish a total of 266,300 square feet of existing office, retail, and other commercial space, including surface parking,[2] while renovating 8,700 square feet of existing retail and office space for ground-floor restaurant/retail use and upper-story offices for a net gain of 901,000 gross square feet of new development and parking. The project would not construct housing nor would it displace existing housing. Space at the site is not now fully used.[3]

Demolition of existing buildings on site would displace approximately nine existing businesses that may have had about 700 employees (or 0.14% of the City's 534,600 employees existing in 1995; see business displacement discussion in Section III.A, Land Use, Zoning and Plan Consistency, pp. 60-61). Employment at the site in mid-1999 was about 200-300 employees. Employment at the site would increase to a total of about 4,200 employees for a net increase of at least 3,500 employees, an increase of approximately 0.7% over city-wide employment in 1995.

Direct increases in employment and business, such as that of the proposed project, induce further growth in households, population, housing, employment, and a range of other goods and services to meet the production and consumption needs of the additional economic and residential activity. Some of the induced growth would occur locally in San Francisco. The majority of it would occur within the San Francisco Bay Area, with a minor amount occurring beyond the region's borders. The direct and induced growth of the proposed project for San Francisco and the region is anticipated in ABAG's regional forecasts of employment, households, and population growth. The proposed project would not be expected to contribute in any unusual way to anticipated future growth in San Francisco or the region.

It is expected that some workers employed by businesses in the project development would want to live in San Francisco. In addition, some of the new jobs would be filled by individuals who already live and work in the City; those who live in the City but who were previously not employed or who worked outside the City; those who live in surrounding communities; or by those unable to afford to reside in the City. New downtown workers would also increase demand for housing in other parts of the Bay Area. The project would contribute to housing construction in the City by meeting the City's Office Affordable Housing Production Program (OAHPP) (see Appendix A, Initial Study, p. A.13 and endnote 11 on p. A.15), or the Jobs/Housing Linkage Program requirements proposed by the Planning Commission as an amendment to the OAHPP and currently under consideration at the Board of Supervisors.

The project would be built in a developed urban area, and no expansion of municipal infrastructure not already under consideration would be required to serve the project.

Since the project does not have unusual labor requirements, it would be expected that project construction would meet its need for labor within the regional labor market for construction projects in San Francisco without attracting construction labor from areas beyond the region's borders.

NOTES - Growth Inducement

1. *State CEQA Guidelines*, as amended October, 1998, Section 15126.2(d).

2. The demolition would include 185,900 gsf of office space, 11,300 gsf of retail space (20,000 gsf total minus the 8,700 gsf renovation), and 69,100 gsf of other commercial space.

3. Employee displacement estimate based on total square footage of existing occupied space and on average office employee density factors of 275 sq. ft. per employee (conservative capacity estimate assuming 0% vacancy) and 350 sq. ft. per employee for retail and 590 sq. ft. per employee for other commercial (warehouse) space. Sources: City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, Volume III, p. C.4, Table C.6, Density Factors and Assumptions for Estimating Employment for the Proposed Project (from Final Mission Bay EIR, 1990, Volume III, Appendices, p. XIV.A.10, Table XIV.A.2, Density Factors and Assumptions for Estimating Project Area Employment). Also consistent with Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, August 27, 1997, revised March 30, 1998, see p. 40, Table 6, South of Market Employment Projection, Cumulative Growth Analysis, City of San Francisco 1995-2015.

IV. MITIGATION MEASURES PROPOSED TO MINIMIZE POTENTIAL ADVERSE IMPACTS OF THE PROJECT

In the course of project planning and design, measures have been identified that would reduce or eliminate potential environmental impacts of the project. Some of these measures have been, or would be, adopted by the project sponsor and, therefore, are proposed as part of the project; some are under consideration. Implementation of some measures may be the responsibility of public agencies.

Each mitigation measure and its status is discussed below. Measures from the Initial Study (see Appendix A, p. A.1) proposed as part of the project are indicated with an asterisk (*) and follow mitigation measures of topics discussed in the EIR. Mitigation measures identified in this EIR and in the Initial Study would be required by decision makers as conditions of project approval unless they are demonstrated to be infeasible based on substantial evidence in the record.

A. TRANSPORTATION

The project would contribute to delays at local intersections and to the queue along First Street leading to the Bay Bridge on-ramp during the p.m. peak commute. It is not feasible to add lanes to local streets to reduce this congestion without substantial acquisition of private property and demolition of occupied buildings. Signal timing enhancement is assumed in the analysis of impacts, as the Department of Parking and Traffic regularly adjusts signals to meet traffic demands to the extent possible. Therefore, transportation mitigation focuses on reducing the project's automobile use during the commute period, and reducing the potential that project traffic exiting Buildings 1 and 2 would block travel lanes while attempting to enter the First Street queue.

Mitigation measures identified in this report

Some measures that assist in reducing the number of p.m. peak period vehicle trips and enhance transit facilities are included in City ordinances and are applicable to the proposed project. Section 163 of the Planning Code requires that project sponsors of new office buildings in the C-3 Districts prepare a transportation management program (TMP) to be implemented by the Transportation Broker. The TMP must provide transit information to tenants and their employees, provide for on-site sale of transit passes and debit cards (such as BART tickets), coordinate ridesharing activities for tenants and their employees, promote coordinated flex-time or staggered work hours to more evenly distribute the arrival and departure times of tenant employees, and carry out other activities determined by the Planning Department to be appropriate to meet the intent of minimizing the transportation impacts of added office employees in the downtown area. Other provisions of the Planning Code require that parking rates be designed to discourage use by commuters, that preferential parking be provided for vanpools and carpools, and that secure bicycle parking with lockers and showers be provided. Mitigation measures to further reduce p.m. peak period vehicle trips include:

1. As required by the Planning Code, prepare and implement a Transportation Management Program. The TMP shall include, but not be limited to features such as:

    a. A prohibition on daily, weekly or monthly discounted parking rates

    b. A marketing program for commute alternatives with enough variety to appeal to differing needs of employees of different firms in the building, including features such as employee information packets; regular distribution throughout the project buildings of information on transportation system changes, such as new or changed transit routes; and regular distribution of information promoting use of public transit, ridesharing, and flextime.

    c. A requirement that large employers within the project buildings either provide for their employees to set aside pre-tax funds for transit expenses under Section 125 of the Internal Revenue Code, or provide subsidized transit passes and transit debit cards to building employees.

    d. A casual carpool pickup location within or adjacent to Building 2, augmenting the existing evening carpool pickup location on Beale Street several blocks from the project site.

2. As noted above, as a part of the requirements of Section 163 of the Planning Code, a TMP is required to be developed by the project sponsor and approved by the Director of Planning. Based on Planning Department guidance as contained in *Transportation Management Programs in Greater Downtown - Developer's Manual for Procedures and Performance Criteria* (January 1988), the project's TMP would include a project-specific numerical goal for reducing commute travel by single occupancy vehicles. This numerical goal shall be set at a level which acknowledges the project's proximity to substantial transit services. At a minimum, the goal shall be set at a level that would require commuters to/from the project site to achieve a lower percentage use of single-occupant vehicles than the average percentage by workers in buildings in the C-3 district of San Francisco with Section 163 Transportation Management Programs.

3. Implement a parking rate structure at project garages which is both consistent with San Francisco Planning Code Section 155 and other permit approval and Planning Code requirements, and also provides a financial disincentive for vehicles to exit the garages during the p.m. peak period of congestion (4:30 to 6:30). The peak period financial disincentive for vehicles parking more than four hours and leaving during the peak period shall be no less than a surcharge equal to the public rate for one hour of parking in the same garage.

4. During peak times of congestion such as holidays or major events at the Moscone Convention Center and/or Pacific Bell Ballpark at China Basin, station Parking Control Officers at congested intersections to direct traffic and ensure pedestrian safety.

5. To mitigate impacts to vehicles using the left lane of First Street between Howard and Folsom Streets which exacerbates the queue on First Street and the unacceptable LOS at First and Howard Streets, open a driveway onto Howard Street, in Building 2, to be used exclusively during the p.m. peak period.

The additional driveway would reduce or eliminate the possibility of motorists blocking the left-hand lane of First Street when exiting Building 2 and attempting to join the queue leading to the Bay Bridge on-ramp, and would reduce the number of project-related vehicles using the First and Folsom Streets intersection. It would add some additional traffic to the First and Howard Streets intersection, and could extend the queue of vehicles in the left lanes of Howard Street waiting to turn onto First Street to joint the queue for the Bridge ramp, but would not cause that queue to extend beyond the Fremont and Howard Streets intersection. This measure would cause substantial changes in the design of Building 2, and would reduce the amount of ground floor retail space in this building because the loading entrance/exit and a parking entrance/exit would remain on First Street as proposed. With this measure it would not be possible to provide the unified design proposed in the project, as Building 2 would have a vehicle exit at some location relatively close to the corner open space at First and Howard Streets. Provision of a vehicle exit near the Howard and Fremont Streets intersection would interfere with morning carpool drop-off activity and provision of the exit in the center of the block face would interfere with the proposed interior courtyard on the ground floor of the building.

Acknowledging disadvantages of this measure, the City and the project sponsor have been investigating other options to reduce impacts on First Street. Options could involve exits on First Street or on Fremont Street to be used during the p.m. peak period. Each of these options has advantages and disadvantages, and the Department of Parking and Traffic staff have expressed some concerns about egress from these locations. A substitute measure or measures could be adopted by the decision makers in public hearing(s) as part of their actions on the project, if decision makers find that the substitute measure or measures are equivalent to or more effective than this measure and that the substitute measure or measures cause no new significant environmental impacts.

6. Convert Natoma Street to two-way operation between Fremont and First Streets.

This measure would reduce or eliminate the impact of project traffic on the exclusive bus lane on First Street between Mission and Howard Streets. Existing on-street parking on Natoma Street would need to be removed for this measure, which would result in increased competition for on-street parking in the area, but not by a significant amount. The change to two-way operation would add traffic to Fremont Street north of Howard Street. Fremont Street operates with relatively free flow conditions in the afternoon because it leads away from freeway ramps in the South of Market area; therefore, additional project traffic would not cause unacceptable service levels.

B. AIR QUALITY

Transportation mitigation measures discussed above in Section A., Transportation Mitigation Measures, would reduce the project's contribution to significant regional air quality impacts insofar as the measures reduced the vehicle miles traveled from the project.

Mitigation measures proposed as part of the project

7. Provide preferential parking for alternative fuel vehicles.

*8. The project sponsor would require its contractors to implement as appropriate the BAAQMD's guidelines on basic control measures for emissions of dust during construction: (1) water all active construction areas at least twice daily; (2) cover all trucks hauling soil, sand, and other loose materials or require trucks to maintain at least two feet of freeboard; (3) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas; (4) sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas; and (5) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

C. NOISE

Mitigation measures proposed as part of the project

*9. If pile driving is necessary to install pile foundations, the project sponsor would require construction contractors to predrill holes to the maximum depth feasible on the basis of soil conditions. Contractors would be required to use construction equipment with state-of-the-art noise shielding and muffling devices. The project sponsor would also require that contractors schedule pile driving activity for times of the day that would be consistent with the Noise Ordinance.

D. GEOLOGY / TOPOGRAPHY

Mitigation measures proposed as part of the project

*10. The project sponsor would ensure that the construction contractor conducts a pre-construction survey of existing conditions and monitors any adjacent buildings for damage during construction, if recommended by the geotechnical engineer, in the foundation investigations.

*11. If dewatering were necessary, the final foundation report would address the potential settlement and subsidence impacts of this dewatering. Based on this discussion, the foundation report would determine whether or not a lateral movement and settlement survey would be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey were recommended, the Department of Building Inspection would require that a Special Inspector (as defined in Article 3 of the San Francisco Building Code) be retained by the project sponsor to perform this monitoring. Instruments would be used to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable movement were to occur during construction, groundwater recharge would be used to halt this settlement. The project sponsor would delay construction if necessary. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor.

If dewatering were necessary, the project sponsor and its contractor would follow the geotechnical engineers' recommendations regarding dewatering to avoid settlement of adjacent streets, utilities, and buildings that could potentially occur as a result of dewatering.

*12. If The project sponsor and its contractor would follow the geotechnical engineers' recommendations regarding installation of settlement markers around the perimeter of shoring to monitor any ground movements outside of the shoring itself. Shoring systems would be modified as necessary in the event that substantial movements are detected.

E. WATER QUALITY

Mitigation measures proposed as part of the project

The project sponsor would ensure that groundwater from site dewatering and stormwater runoff meets the discharge limitations of the City's Industrial Waste Ordinance by carrying out the following:

*13. If dewatering were necessary, the project sponsor would follow the recommendations of the geotechnical engineer or environmental remediation consultant, in consultation with the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission, regarding treatment, if any, of pumped groundwater prior to discharge to the combined sewer system.

If dewatering were necessary, groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission to reduce the amount of sediment entering the combined sewer system.

*14. The project sponsor would require the general contractor to install and maintain sediment traps in local storm water intakes during construction to reduce the amount of sediment entering the combined sewer system, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission.

F. HAZARDS

Mitigation measures proposed as part of the project

*15. In addition to local, state and federal requirements for handling soil and groundwater containing designated levels of chemicals, the project sponsor would enter into a voluntary remedial action agreement with the Department of Public Health pursuant to Health and Safety Code Section 101480 et seq. At a minimum, the project sponsor would undertake the following work and any additional requirements imposed by the Department of Public Health under the agreement.

a. A Phase I Environmental Site Assessment would be prepared for any portion of the project site for which a Phase I assessment has not already been completed (i.e., 224 and 236 Fremont Street, Assessor's Block 3737, lot 3). The investigation would list current and past uses of the lot, review environmental agency databases and records, report site reconnaissance observations, and summarize potential contamination issues, including any that warrant further investigation. The assessment would be completed by a Registered Environmental Assessor (REA) or a similarly qualified individual prior to initiating any earth-moving activities at the affected portion of the project site.

One or more Phase II Environmental Site Assessments would be prepared for areas of the project site not subject to San Francisco's Maher Ordinance. (This measure is required by law for areas subject to the Maher Ordinance.) On the basis of historical uses and the conclusions of the Phase I Environmental Site Assessments, soil or groundwater samples, or both, would be collected throughout the project site as directed by the site assessment consultant. Sampling would extend at least to depths proposed for excavation. The samples would be analyzed to identify and quantify any contamination. These studies would be completed by an REA or a similarly qualified individual prior to initiating any earth-moving activities at the site.

If findings in the Phase I and Phase II reports result in the preparation of a Site Safety and Health Plan, in addition to measures that protect on-site workers, the Plan would include measures to minimize public exposure to contaminated soils. Such measures would include dust control, appropriate site security, restriction of public access, and posting of warning signs, and would apply from the time of surface disruption through the completion of earthwork construction.

b. Prior to any demolition or excavation at the project site, surveys would be conducted to identify any potentially hazardous materials in existing buildings or building materials. At a minimum, these surveys would identify any asbestos, polychlorinated biphenyls, lead, mercury, or other hazardous materials that would require removal and disposal before demolition. Wherever former site uses or site reconnaissance observations reported in the Phase I Environmental Site Assessments suggest the potential for underground storage tanks or related piping to be present, magnetic surveys or other appropriate surveys would be conducted to locate underground storage tanks. If any are identified, the San Francisco Department of Public Health would determine whether they must be removed or whether they may be closed in place. These surveys would be completed by an REA or a similarly qualified individual.

c. All reports and plans prepared in accordance with Mitigation Measure No. 8 would be provided to the San Francisco Department of Public Health and any other agencies identified by the Department of Public Health. When all hazardous materials have been removed from existing buildings, and soil and groundwater analysis and other activities have been completed, as appropriate, the project sponsor would submit to the San Francisco Planning Department and the San Francisco Department of Public Health (and any other agencies identified by the Department of Public Health) a report stating that the mitigation measure has been implemented. The report would describe the steps taken to comply with the mitigation measure and include all verifying documentation. The report would be certified by an REA or a similarly qualified individual who states that all necessary mitigation measures have been implemented.

G. CULTURAL RESOURCES

Mitigation measures proposed as part of the project

16. Prior to the demolition of 401 Howard Street and 218 Fremont Street, prepare historic documentation, similar to Historic American Buildings Survey (HABS) recordation standards, which would include the following:

- A HABS-type outline report on the buildings including descriptive and historical information.

- Photographic documentation of the exteriors of the buildings. Such documentation would be provided to HABS standards of detail and quality for photographic documentation in 4x5 or 5x7 photographs and negatives.

- An appropriately conserved set of architectural drawings of each building, if any are available.

Copies of the outline report and narratives, photographic documentation, and any available architectural drawings of the buildings shall be submitted to the City and County of San Francisco Planning Department prior to authorization of any permit that may be required for demolition of the buildings.

In addition, the project sponsor would prepare and transmit the photographs and descriptions of the buildings to the History Room of the San Francisco Public Library and the Northwest Information Center of the California Historical Information Resource System.

The measure would reduce the adverse effect of demolition of the buildings, but the loss of the buildings would still be considered a significant impact.

*17. Given the location and depth of excavation proposed, and the likelihood that archaeological resources would be encountered on the project site, the sponsor has agreed to retain the services of an archaeologist. The archaeologist would conduct a pre-excavation testing program to better determine the probability of finding cultural and historical remains. The testing program would use a series of mechanical, exploratory borings or trenches or other testing methods determined by the archaeologist to be appropriate.

If, after testing, the archaeologist determines that no further investigations or precautions are necessary to safeguard potentially significant archaeological resources, the archaeologist would submit a written report to the Environmental Review Officer, with a copy to the project sponsor. If the archaeologist determines that further investigations or precautions are necessary, he or she would consult with the Environmental Review Officer, and they would jointly determine what additional procedures are necessary to minimize potential effects on archaeological resources.

These additional measures would be implemented by the project sponsor and could include a program of on-site monitoring of all site excavation, during which the archaeologist would record observations in a permanent log. The monitoring program, whether or not there are findings of significance, would result in a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor. During the monitoring program, the project sponsor would designate one individual on site as its representative. This representative would have the authority to suspend work at the site to give the archaeologist time to investigate and evaluate archaeological resources if they are encountered.

If evidence of cultural resources of potential significance were found during the monitoring program, the archaeologist would immediately notify the Environmental Review Officer, and the project sponsor would halt any activities that the archaeologist and the Environmental Review Officer jointly determine could damage such cultural resources. Ground disturbing activities that could damage cultural resources would be suspended for a total maximum of four weeks over the course of construction of each building.

After notifying the Environmental Review Officer, the archaeologist would prepare a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor, which would contain an assessment of the potential significance of the find and recommendations for what measure should be implemented to minimize potential effects on archaeological resources. Based on this report, the Environmental Review Officer would recommend specific additional measures to be implemented by the project sponsor. These additional measures could include a site security program, additional on-site investigations by the archaeologist, or documentation, preservation, and recovery of cultural material.

Finally, the archaeologist would prepare a report documenting the cultural resources that were discovered, an evaluation as to their significance, and a description as to how any archaeological testing, exploration or recovery program is to be conducted.

Copies of all draft reports prepared according to this mitigation measure would be sent first and directly to the Environmental Review Officer for review. Following approval by the Environmental Review Officer, copies of the final reports would be sent by the archaeologist directly to the President of the Landmarks Preservation Advisory Board and the California Archaeological Site Survey Northwest Information Center. Three copies of the final archaeology reports would be submitted to the Environmental Review Officer, accompanied by copies of the transmittals documenting its distribution.

V. OTHER CEQA CONSIDERATIONS

A. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

In accordance with Section 21100 (b)(2)(A) and 21100.1(a) of the California Environmental Quality Act (CEQA), and Section 15126.2(b) of the State CEQA Guidelines, the purpose of this chapter is to identify significant impacts that could not be eliminated or reduced to an insignificant level by implementing mitigation measures included as part of the project or by other mitigation measures that could be implemented, identified in Chapter IV, Mitigation Measures, p. 154. This chapter is subject to final determination by the Planning Commission as part of the certification process for the EIR. If necessary, this chapter will be revised in the Final EIR to reflect the findings of the Planning Commission.

The project, with mitigation, would have the following unavoidable significant effects:

- Demolition of buildings at 401 Howard Street and 218 Fremont Street would have a significant impact on historic architectural resources.

The proposed project would demolish 18 of 19 existing buildings and would remove surface parking on the project site. Three buildings on the project site, 231 First Street, 401 Howard Street, and 218 Fremont Street, have been identified as historic architectural resources. 231 First Street would be retained and rehabilitated as part of the proposed project; therefore, the project would not cause a substantial adverse change to this structure. The State Office of Historic Preservation has determined that 401 Howard Street is eligible for listing on the National Register and that 218 Fremont Street may become eligible for the National Register with additional research on its historical context. Both 401 Howard Street and 218 Fremont Street meet the definition of an historical resource or have been "deemed significant," and both would be demolished as part of the project, resulting in a significant impact.

- Project traffic would cause a significant impact at the intersection of First and Howard Streets.

- Project traffic would contribute considerably to traffic from cumulative growth in downtown San Francisco, resulting in unacceptable LOS F at the intersection of Fremont and Folsom Streets.

- The project would contribute considerably to significant cumulative traffic at intersections that already operate at unacceptable levels, such as First and Harrison Streets at the on-ramp to the eastbound Bay Bridge, and would contribute considerably to cumulative traffic queues on First Street of over one block in length on the segment between Folsom and Howard Streets, with the potential for traffic to spill beyond the First and Howard Streets intersection.

- Project traffic volumes would exceed the BAAQMD's significance thresholds for regional emissions of ROG and NO_x resulting in an unavoidable significant project-specific and cumulative air quality impact.

Mitigation measures have been identified in Chapter IV of this report that would reduce but not eliminate significant traffic, air quality, and historic architectural resources impacts.

B. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Significant irreversible environmental effects or changes that could occur if the proposed project were implemented would be in the area of architectural resources, transportation, and air quality, as discussed above in Section V.A, Significant Environmental Effects.

The project would intensify development at the site consistent with development in San Francisco's urban environment. The project would commit future generations to the same land uses for at least the life of the project. Implementing the project would result in an irreversible commitment of energy resources, primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel for construction equipment and automobiles, and during demolition, construction and ongoing use of the site. Because the project would comply with California Code of Regulations Title 24, it would not use energy in a wasteful, inefficient or unnecessary manner (see the discussion of Energy in the Initial Study, Appendix

A). The consumption or destruction of other non-renewable or slowly renewable resources would also result during demolition, construction, occupancy, and use of the site. These resources include, but are not limited to, lumber, concrete, sand and gravel, asphalt, masonry, metals, and water. The project would also irreversibly use water and solid waste landfill resources. However, the project would not involve a large commitment of those resources relative to supply, nor would it consume any of those resources wastefully, inefficiently or unnecessarily.

VI. ALTERNATIVES TO THE PROPOSED PROJECT

This chapter identifies alternatives to the proposed project and discusses environmental impacts associated with these alternatives. Project decision-makers must approve an alternative instead of the proposed project, if that alternative would substantially lessen or avoid significant impacts of the project and is determined to be feasible. The determination of feasibility will be made by City decision-makers.

The following alternatives are evaluated in this chapter: a No-Project Alternative; a Base FAR/No Exception Development Alternative; a Preservation Alternative; and a Reduced Development Alternative. Any of the alternatives could be implemented under City controls but would require many of the same approvals as the proposed project, such as street vacations, project authorization for developing office space in Downtown San Francisco, or exceptions to the San Francisco Planning Code to exceed bulk limits, to exceed the amount of space devoted to parking, to reduce the number of loading spaces, or other requirements.

No alternative sites have been identified within downtown San Francisco where the project could be constructed and meet most of the project sponsors' objectives, and where the project's environmental effects would be substantially lessened or avoided.

A. ALTERNATIVE A: NO PROJECT

DESCRIPTION

The No-Project Alternative would entail no change to the site. The proposed project would not be built. Buildings on the project site would not be demolished and none of the existing architectural features would be altered. All unreinforced masonry buildings (UMBs) on the site would be demolished, retrofitted, or vacated by year 2004. However, this alternative would not preclude future proposals for redevelopment of the project site.

IMPACTS

If the No-Project Alternative were implemented, none of the impacts associated with the project would occur. The environmental characteristics of this alternative would be generally as described in the environmental setting sections of Chapter III. Land use, urban design/visual quality and shadow and wind conditions would not change. With or without the proposed project, Fritzi of California would no longer retain its operations on Area 1 or Area 2. The Fritzi of California buildings would become vacant in year 2000, unless other businesses leased the property for their own uses. The architecturally significant building at 231 First Street would not be renovated and reused, and the buildings at 401 Howard Street and 218 Fremont Street, eligible and potentially eligible for the National Register, respectively, would not be demolished.

The project would not contribute to cumulative transportation impacts on freeways and freeway ramps and at intersections near the project site. Significant regional air emissions caused by traffic from the project would not occur. By 2015 without the project, cumulative growth at other locations in downtown would create substantial increases in commute travel, causing significant transportation impacts similar to those described in Section III.D, Transportation, but without the increment of the cumulative effect caused by the project.

B. ALTERNATIVE B: BASE FAR/NO EXCEPTIONS

DESCRIPTION

The Base FAR/No Exceptions Alternative would include all of the same land uses as the proposed project. Alternative B would include demolition of the existing buildings on the project site except the building at 231 First Street, which would be retained and renovated.

This alternative includes development of Area 1 at the base FAR of 6:1 (without the use of transferable development rights), and development of all project buildings with parking as an accessory use (a maximum of 7% of gross floor area). In this alternative, development on the project site would include a total of about 1,109,250 sq. ft. of office space compared to the proposed project's 1,120,000 sq. ft. To achieve this reduction in area, Building 1 would be developed with 272,250 sq. ft. of office space, a decrease of about 11,000 sq. ft. compared to 283,000 sq. ft. of office space proposed by the project in Area 1. All other project buildings would have the same amount of office and retail space as the proposed project. Alternative B would include a maximum of 7% of total gross office and retail floor area devoted to parking, while the project proposes approximately 22%. With total development of 1,165,250 sq. ft., total parking area would equal about 81,570 sq. ft. This alternative would have about 235 parking spaces (assuming self-park), about 525 fewer spaces than the proposed project. With valet parking Alternative B would have about 380 parking spaces, about 850 fewer spaces than the proposed project with valet parking. Table 10 shows the number of parking spaces in each building for the proposed project and for Alternative B.[1]

As Building 1 would be reduced by approximately one-half of one floor to remove the 11,000 gsf of office space, the building design would change, but it would likely remain nine stories, with the reduction in floor space created by narrowing the two upper floors, thereby also meeting the Planning Code bulk requirements for lower towers (the portion of the building between the base and 160 feet). Building 2 would be redesigned to meet Planning Code lower tower bulk limits by reducing the size of the upper two floors. The building at 231 First Street would be retained and redeveloped with retail/restaurant space on the ground floor and office above, as with the project.

Buildings 1 and 3 would include one additional loading space each, and Building 2 would include two additional loading spaces, to comply with Planning Code loading space requirements in Section 153.

TABLE 10
ALTERNATIVE B PARKING SPACE DISTRIBUTION[1]

Building Number	Proposed Project Parking Spaces		Alternative B Parking Spaces		Net Decrease with Alternative B	
	Self	**Valet**	**Self**	**Valet**	**Self**	**Valet**
Bldg 1	202	329	58	94	144	235
Bldg 2	288	469	95	154	193	315
Bldg 3	127	207	38	62	89	145
Bldg 4	140	228	43	70	97	158
Total	*757*	*1,233*	*234*	*380*	*523*	*853*

Notes:
1. Assumes 350 sq. ft. for each self-park space and 215 sq. ft. for each valet park space.

Source: EIP Associates

With this alternative, no exceptions from the Planning Code would be needed for building bulk or number of loading spaces, and no conditional use authorization would be needed for parking in excess of 7% of gross floor area. No transferable development rights would be included in this alternative. Approval of a street vacation of Tenny Place and Sloan Alley would continue to be required.

IMPACTS

This alternative would include demolition of all existing structures except the building at 231 First Street, and would develop the site with office and ground-floor retail uses more intensely than is now found at the site. Overall, land use conditions would change in a similar manner as described for the project. The reduction in office floor space in Building 1 and the change in bulk for Building 2 would not result in substantially different conclusions regarding urban design or visual quality effects from those described for the project, nor would shadow or wind effects from Alternative B be substantially different from those analyzed for the proposed project. As with the project, Alternative B would retain the 231 First Street building, a

Category I Significant Building. The building at 401 Howard Street, eligible for the National Register, and at 218 Fremont Street, potentially eligible for the National Register, would be demolished in Alternative B, as with the proposed project, resulting in a significant impact.

Traffic and transit impacts would be essentially the same as those described for the proposed project, because the reduction in building space (11,000 gsf) would not be large enough to create substantial reductions in trip generation from the project site. The amount of traffic estimated to be caused by a proposed project is based on the number of person trips generated by the various proposed uses in a project, rather than on the number of parking spaces proposed; therefore, the decrease in number of parking spaces would not reduce automobile trips generated by the project site. Alternative B would contribute to significant cumulative traffic impacts in the future at a similar level to the project's contribution. Air quality impacts from traffic generated by development under Alternative B would be similar to those described for the proposed project and would remain significant for both project-level and cumulative cases.

Alternative B would create a parking shortfall of about 1,265 spaces, or about 525 more than the project with self-park spaces (the shortfall would be about 1,120 spaces, or about 850 more than the project, assuming valet parking spaces). This alternative would reduce the parking space surplus in the 2-block radius around the project site from about 1,640 spaces to about 500 spaces assuming valet-parking, or under 400 spaces with self park. The parking study area occupancy would increase from 81% to about 94%; at 95% occupancy, most facilities in the area would operate at capacity and available parking spaces would be very difficult to locate. As discussed in Section III.D, Transportation, above, lack of parking spaces is not considered to be a significant physical environmental impact in San Francisco. Providing parking in amounts less than demand conforms with *General Plan* policies discouraging automobile use and encouraging transit use in San Francisco. To the extent that a constrained parking supply and high parking rates provide less incentive to commute to the project area by single-occupant automobile, providing less parking at the project site may contribute to a shift to carpool and transit use.

The alternative would provide four more loading spaces than the proposed project, meeting Planning Code loading requirements in each building. The alternative would provide more loading spaces in each building than needed to satisfy peak loading demand.

C. ALTERNATIVE C: PRESERVATION ALTERNATIVE

DESCRIPTION

As discussed in Section III.F, the buildings at 231 First Street and 401 Howard Street are eligible for listing on the National Register, and thus, are historical resources. The Building at 218 Fremont Street has been determined by the SHPO to be potentially eligible for the National Register and is therefore "deemed significant." The Preservation Alternative would redesign Building 2 to incorporate 231 First Street, 218 Fremont Street, and 401 Howard Street in a way that would preserve these historic architectural resources, while maintaining overall project development at about 1,120,000 sq. ft. of office and 56,000 sq. ft. of retail space. The number of parking and loading spaces would remain the same as for the proposed project. Transferable development rights would be used in this alternative, as for the project, to increase the office FAR in Area 1 above the base 6:1 and to add parking floor area above the 7% accessory parking amount in all new buildings.

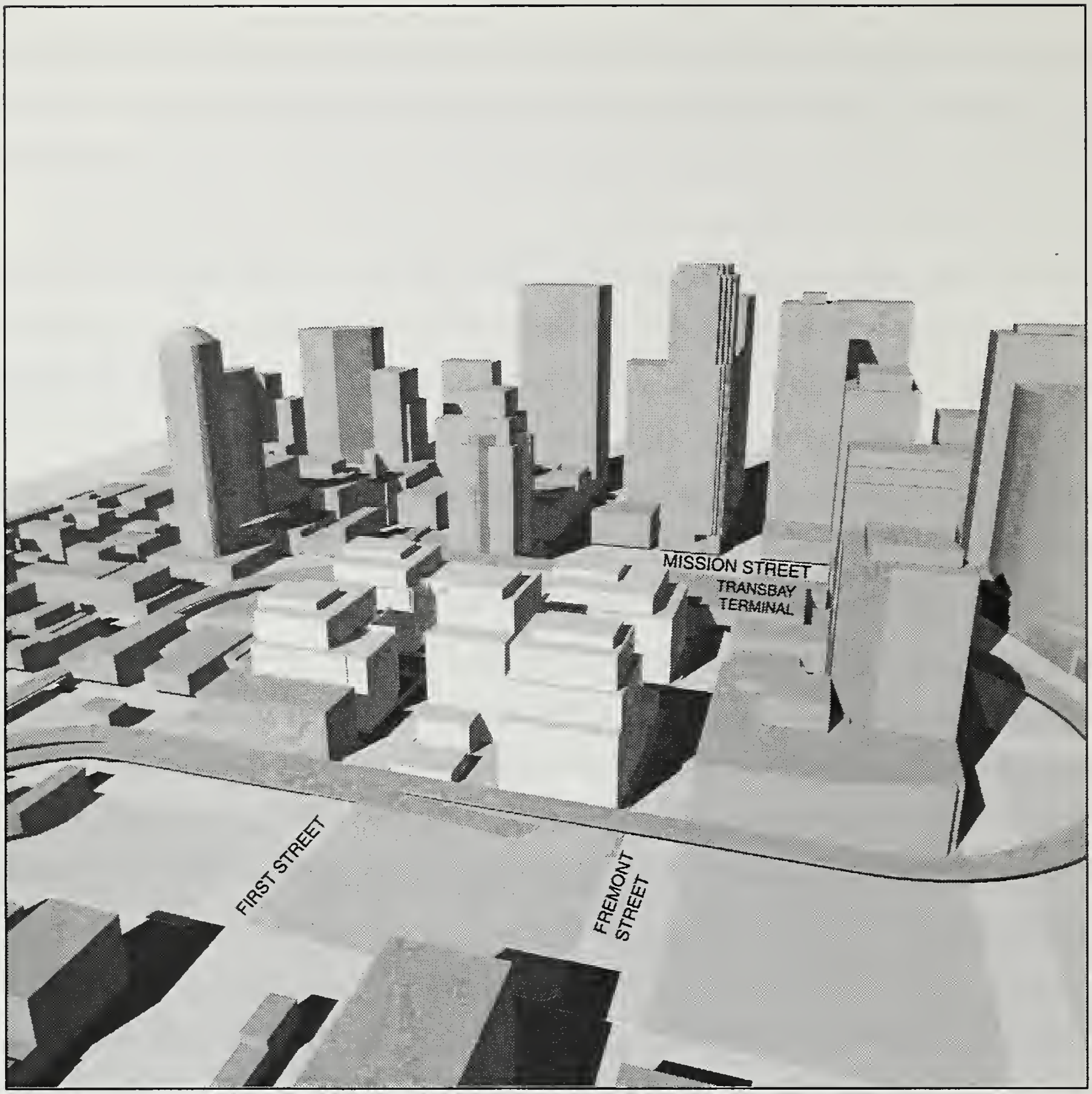
This alternative would result in the same floor area and building designs for Buildings 1, 3, and 4 as the proposed project, but would result in a taller building with a different design and form in Area 2. Many different building configurations would be possible for a building in Area 2 that preserved the three historic structures but it would not be possible to include the open space in Area 2 at the corner of First and Howard Streets in this Alternative. Therefore, the complete urban plaza surrounding the First and Howard Streets intersection that is a feature of the proposed project would not be created in Alternative C.

Under the Preservation Alternative, 231 First Street, 401 Howard Street, and 218 Fremont Street, would be renovated, retained, and incorporated into the project on Area 2. The lot between 401 Howard Street and 218 Fremont Street would be used to create a pocket park. Preservation Alternative Building 2 would have twin office towers somewhat taller than Building 2 in the proposed project, rising above a terraced base (see Figure 23). One tower would rise above a 145-foot-tall base at the corner of First and Howard Streets to a height of about 187 feet, with a mechanical floor reaching to about 200 feet. The second tower would rise from a 103-foot base, with a 145-foot lower tower, and an upper at about 187 feet. This tower would be located on Fremont Street at the southeastern corner of Area 2. The twin towers would be separated by an 18-foot-tall lobby space in the center of the building parallel to First Street. The remainder of the new structure on Area 2 would be about 30 feet tall. The main entrances to the office complex of Building 2 would be mid-block on Howard Street, with a secondary entrance from a pocket park on Fremont Street. Tenny Place and Sloan Alley would be vacated and developed as open space, adjacent to the renovated 231 First Street building and accessible from First Street. The entrance to the loading docks and subsurface parking area in Building 2 would continue to be from First Street at the south end of the building, as with the proposed project.

All approvals required for Alternative C would be the same as those required for the proposed project, except that the tower at the southeast corner of First and Howard Streets on Area 2 would require an exception to the bulk limits. Setbacks would be required for development above 103 feet for the lower tower.

IMPACTS

Land use changes with Alternative C would be the same as those described for the proposed project, with increased density of office and retail space replacing the existing office, retail, warehouse and commercial space. This alternative would require an exception to bulk limits for the lower tower in Area 2 for the portion of the building at the First and Howard Streets corner.



SOURCE: Studios Architecture

EIP ASSOCIATES

FIRST AND HOWARD

FIGURE 23: ALTERNATIVE C, PRESERVATION ALTERNATIVE OBLIQUE VISUAL SIMULATION VIEWED FROM SOUTHEAST

While Alternative C would alter the existing visual character of the project site, the changes would be similar to those described for the proposed project and would not be considered a significant adverse effect on visual quality. This alternative would not include the unified four-corner design of the proposed project. As with the proposed project, Buildings 1, 3, and 4 would be similar to one another in design, height, scale, and form in Alternative C; however, Building 2 would incorporate the preservation of 231 First Street, 401 Howard Street, and 218 Fremont Street and would include twin office towers rising to a full height of about 200 feet, above a terraced base ranging in height from about 30 to 187 feet. The towers would be located at the southeast corner of First and Howard Streets and on Fremont Street at the southeast corner of Area 2. The towers proposed for Alternative C would be approximately 40 feet taller than the proposed project or up to approximately 150 feet taller than existing structures on the project site. Alternative C would be taller than the existing buildings on the project site and the proposed project but would not be taller than existing or proposed high-rise development near the project site, such as 199 Fremont, 524 Howard or the Century residential tower on Natoma Street. Alternative C would not include plaza space at the southeast corner of First and Howard Streets, as with the proposed project, but would develop a pocket park on Fremont Street.

The Preservation Alternative would increase the length of shading from the northwest and southeast corners of Building 2 by about 30%. As with the project, this alternative's shadows would not shade open space under the jurisdiction of the Recreation and Park Department. Shading from the Preservation Alternative, like the project, would not reach Rincon Point Park or The Gap headquarters plaza at any time of the year. This alternative's shadows would not reach the 100 First Street sun terrace. During the winter, morning shadows would not add more shadow to the plaza in front of the Transbay Terminal; afternoon shadows would extend farther across Beale Street towards Main Street, but this extended shadow would not reach the open space at 221 Main Street.

A wind tunnel analysis was prepared for Alternative C, testing those measurement points where winds were most likely to change from the change in form of Building 2. The pedestrian comfort criterion of 11 mph would not be exceeded on sidewalks adjacent to Building 2, although wind speeds would average two to four mph higher on both the First Street and Howard Street sidewalks than were shown for the proposed project. Wind speeds at the southeast corner of Howard and Fremont Streets would be somewhat lower than those shown for the proposed project. As with the project, Alternative C would remove the existing comfort criterion exceedance on the east side of Fremont Street south of its intersection with Howard Street. This alternative would not cause any hazardous wind conditions, as described for the proposed project, and therefore no significant wind impacts would be expected.

Historic architectural resources would be retained with this alternative.

Transportation and air quality impacts would be the same as those discussed for the proposed project, as the amount of office and retail space and the number of parking spaces would not change in Alternative C.

D. ALTERNATIVE D: REDUCED DEVELOPMENT ALTERNATIVE

DESCRIPTION

The Reduced Development Alternative would substantially reduce the office floor area to about 768,000 gsf and retail floor area to about 38,360 gsf. This reduction in floor area would reduce associated vehicle trips, and this alternative would meet the Bay Area Air Quality Management District significance threshold of 80 pounds per day for NO_x, PM_{10}, and reactive organic compounds. Table 11 lists the square footages for each of the four buildings for this alternative. Retail uses would remain on the ground floors of each building, and 231 First Street would be retained. Building forms could be similar to the proposed project, with about two to three floors removed from each building. The general configuration of the urban plaza proposed at the First and Howard Streets intersection would remain as proposed; however, the amount of open space required under the Planning Code would be less for Alternative D, so each corner plaza would be smaller than that proposed for the project, within

TABLE 11
ALTERNATIVE D: LAND USE AND PARKING SPACE DISTRIBUTION

	Proposed Project (sq. ft.)	Proposed Project Parking Spaces		Reduced Development Alternative (sq. ft.)	Reduced Development Parking Spaces	
		Self	Valet		Self	Valet
Building 1						
Office	283,000	202	329	194,000	142	231
Retail	16,200			11,100		
Building 2						
Office	453,750	288	469	311,100	202	329
Retail	19,900			13,360		
Building 3						
Office	178,290	127	207	122,300	89	145
Retail	11,400			7,800		
Building 4						
Office	205,000	140	228	140,600	98	160
Retail	8,500			6,100		
Totals:						
Office	1,120,040	757	1,233	768,000	531	865
Retail	56,000			38,360		
	1,176,040			806,360		

Source: EIP Associates

the building bulk limits for the project site. Tenny Place and Sloan Alley would be vacated in Alternative D, as for the proposed project. Parking and loading access would remain the same as for the proposed project. The number of parking spaces would be reduced proportionally to the reduction in building space, and therefore would continue to exceed the Planning Code limit of 7% of gross floor area, requiring conditional use authorization.

Approvals required for Alternative D would be the same as those for the proposed project. Building 1 would no longer exceed the base 6:1 FAR and no transferable development rights would be purchased for excess office space. Parking space in excess of 7% of gross floor area must be included in each building's space when calculating FAR; because the amount of office space in each building would be substantially below the base 6:1 FAR, the additional space for parking would not cause the buildings to exceed the base FAR.

IMPACTS

Alternative D would include demolition of all existing structures except for 231 First Street, and would develop the site with office and ground-floor retail uses more intensely than now exists at the site, as with the proposed project. Development density would be less than with the proposed project, but greater than existing density. Thus, land use effects from Alternative D would be similar to those described for the proposed project. Urban design and visual impacts would be similar to those described for the proposed project, depending on the ultimate design chosen for the lesser amount of space in this alternative. It is expected that buildings would be five to seven stories tall, rather than the nine stories proposed in the project design. As with the project, a significant impact would result from demolition of the buildings at 401 Howard Street and 218 Fremont Street.

Wind effects would be about the same as those described for the proposed project and would not be significant. The Reduced Development Alternative, with buildings of about five to seven stories tall, would reduce the length of shading by about 25 to 30% compared to the project. As with the project, this alternative's shadows would not reach open space under the jurisdiction of the Recreation and Park Department, or open space areas such as Rincon Point Park, The Gap headquarters plaza, the 100 First Street sun terrace, nor the open space at 221 Main Street at any time of the year. Shading from this alternative would not reach the public space at the entrance to the Transbay Terminal during the winter, as the project would. Impacts to historic architectural resources would be the same as described for the proposed project.

Alternative D would generate about 30% fewer daily and p.m. peak hour person trips, and would contribute about 310 p.m. peak hour vehicle trips, compared to about 450 with the proposed project. The smaller number of vehicle trips would cause slightly less delay at nearby intersections, as shown in Table 12. LOS at most study intersections would remain the same as under the existing-plus-project scenario. The intersection at First and Howard Streets would continue to operate at LOS E, as under existing conditions; therefore, this alternative would not result in a project-specific significant impact, unlike the proposed project. The westbound approach to the First and Natoma Streets intersection, from Building 1, would deteriorate from LOS D to LOS E with Alternative D, rather than LOS F with the proposed project; the overall LOS at this intersection would remain A, as under existing conditions. In summary, Alternative D would not cause conditions at local intersections to deteriorate from acceptable to unacceptable levels of service. Driveways in Alternative D would operate similarly to driveways in the proposed project. Motorists exiting Building 1 onto westbound Natoma Street and using the driveway at Building 2 would experience substantial delays

TABLE 12
P.M. PEAK HOUR INTERSECTION LEVEL OF SERVICE[a]

	Existing		Existing Plus Project		Existing Plus Alternative D	
Intersection	**Delay (sec/veh)**	**LOS**[b]	**Delay (sec/veh)**	**LOS**[b]	**Delay (sec/veh)**	**LOS**[b]
First/Howard	52.9	E	62.5	F	56.6	E
First/Folsom	>60	F	>60	F	>60	F
Howard/Fremont	17.4	C	17.7	C	17.5	C
Fremont/Folsom	9.0	B	9.3	B	9.5	B
First/Harrison	>60	F	>60	F	>60	F
First/Natoma[c]	1.8	A/D[d]	7.5	B/F[d]	3.9	F/D[d]

Notes:
sec/veh = seconds per vehicle delay
a. The 4:30 to 5:30 p.m. peak hour which occurs during the 4:00 to 6:00 p.m. peak period.
b. Level of Service (LOS) determined using the *1985 Highway Capacity Manual* (Updated 1994), Chapter 9.
c. The First and Natoma Streets intersection is a STOP-controlled intersection; all others are signalized.
d. The first LOS designation is for the intersection as a whole; the westbound approach of this unsignalized intersection operates with considerable delay and is shown by the second LOS designation in each column.

Source: Korve Engineering, Inc., September 1999 exiting onto First Street, and potentially blocking the left lane as vehicles wait to enter queues for the Bay Bridge on-ramp. This alternative would contribute about 30% less than the proposed project but would continue to contribute considerably to significant cumulative traffic impacts in 2015.

The addition of trips on MUNI from Alternative D would be slightly less than for the proposed project and would not substantially affect MUNI operations. Similarly, Alternative D would contribute less than 1% to regional transit carriers, and would not cause significant project-specific impacts nor contribute substantially to cumulative impacts on regional transit systems.

Parking would be provided in Alternative D in the same reduced ratio as the reduction in office and retail space. Therefore, the alternative would essentially meet its parking demand, similar to the project. As parking spaces are lost in the future due to development and due to Bay Bridge Retrofit construction, the project area would experience an overall parking shortfall within a 2-block radius of the project site; Alternative D would not change this future parking shortfall. As noted for the proposed project, a parking shortfall is not considered to be a significant environmental impact in San Francisco.

Traffic from this alternative would not cause significant regional air emissions. The reduction of office and retail floor area would produce a proportional reduction in daily vehicle trips. The resulting emissions of NO_x, PM_{10}, and reactive organics would be approximately 75 lb/day, 22 lb/day, and 68 lb/day, respectively. These emissions would be less than the BAAQMD thresholds for significant impacts, and no significant project-related or cumulative air quality impacts would occur.

NOTES - Alternatives to the Proposed Project

1. The number of parking spaces in Alternative B does not assume that any existing parking on the site is replaced in the new buildings. If replacement parking was authorized by City decision-makers, Alternative B could include additional spaces but would continue to include substantially less parking than the proposed project.

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PROJECT AREA TENANTS AND OWNERS

Tenants and other property owners in the project area, approximately 48 parties, were sent notices of availability of the Draft EIR and Draft EIR public hearing. A complete copy of the distribution listing is available in the Planning Department office at 1660 Mission Street, as part of File No. 98.902E.

VIII. REPORT PREPARERS; ORGANIZATIONS AND INDIVIDUALS CONSULTED

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Andrea Gough, Demand Analysis Office, Energy Forecasting & Planning Division, California Energy Commission

John Thomas, California Office of Historic Preservation

A. INITIAL STUDY/EIR REQUIREMENT

NOTICE THAT AN ENVIRONMENTAL IMPACT REPORT IS DETERMINED TO BE REQUIRED

Date of this Notice: March 27, 1999

Lead Agency: Planning Department, City and County of San Francisco
1660 Mission Street, 5th Floor, San Francisco, CA 94103-2414
Agency Contact Person: Joan A. Kugler, AICP **Telephone:** (415) 558-6396

Project Title: 98.902E, First and Howard
Project Sponsor: Wilson Cornerstone
Project Contact Person: Thomas Sullivan, Vice President
Telephone: (650) 358-5408

Project Address: First and Howard Streets
Assessor's Block(s) and Lot(s): 3720/5, 6, 7
3721/10, 11, 35, 88
3736/1, 2, 3A, 4, 116
3737/1, 1A, 1B, 2, 3, 4, 22, 23, 24, 25, 26
City and County: San Francisco

Project Description: The proposed project would demolish all but one of the existing structures and would construct four 9-story office buildings in the C-3-O (SD) (Downtown Office, Special Development) District. The total office area in the project would be approximately 1,120,000 sq. ft. plus about 56,000 sq. ft. of retail space devoted primarily to food services, business services, and other neighborhood-serving incidental and support uses. About 1,175 underground parking spaces would be provided, the proposed parking area would exceed 7% of the total gross floor area under the Planning Code, thereby requiring Conditional Use authorization. Open space would be oriented toward the First and Howard Streets intersection. 231 First Street, a Category I historic structure, would be preserved and renovated for restaurant or retail and office use.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Section 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Deadline for Filing of an Appeal to the City Planning Commission of this Determination that an EIR is required: **April 26, 1999 at 5:00 p.m.**

An appeal requires:
1) a letter specifying the grounds for the appeal; and,
2) a $209.00 filing fee.

HILLARY E. GITELMAN
Environmental Review Officer
Planning Department

FIRST AND HOWARD
INITIAL STUDY
98.902E

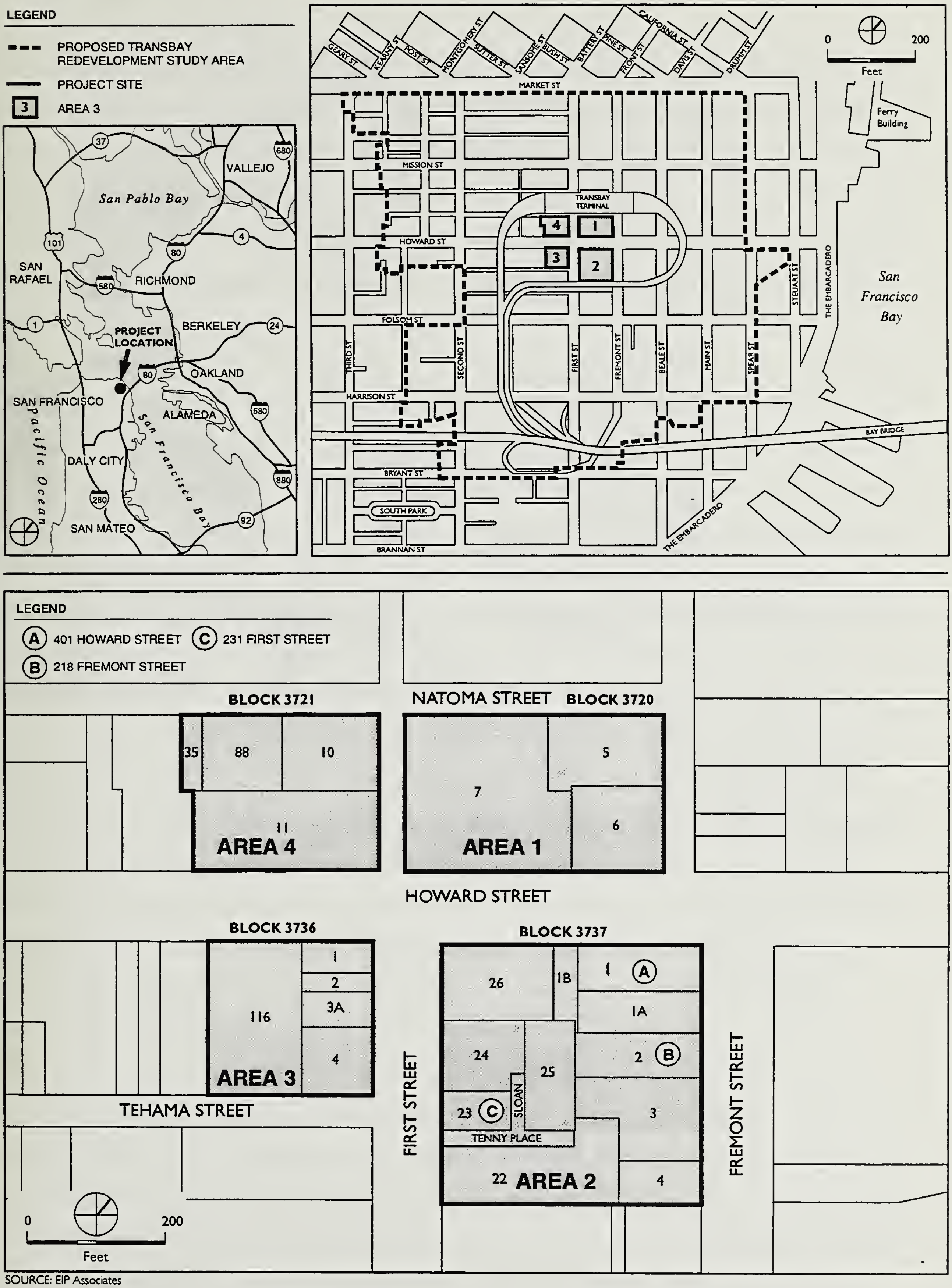
I. PROJECT DESCRIPTION

The First and Howard Streets project site lies within the proposed Transbay Redevelopment Study Area, with the Transbay Terminal immediately to the north, as shown on Figure 1. Existing uses on the site consist of a mix of office, retail, commercial, and surface parking. Buildings on the site are mostly three stories and under, with a couple of four- and five-story buildings. All existing buildings originally constructed between 1906 and 1935 would be demolished, with the exception of 231 First Street (item C on Figure 1). 231 First Street is a Category I building (a significant historical building under Article 11 of the City Planning Code). 401 Howard Street and 218 Fremont Street (items A and B on Figure 1) are considered eligible or potentially eligible, respectively, for the National Register of Historic Places. The project site is entirely within the C-3-O (Downtown Office) SD (Special Development) zoning district with a base floor area ratio (FAR) of 6:1. The project site occupies the following Assessor's Blocks and Lots:

- Block 3720: Lots 5, 6, and 7
- Block 3721: Lots 10, 11, 35, and 88
- Block 3736: Lots 1, 2, 3A, 4, and 116
- Block 3737: Lots 1, 1A, 1B, 2, 3, 4, 22, 23, 24, 25, and 26

The proposed project would occupy the four corners that make up the intersection of First and Howard Streets in the South of Market area. Starting clockwise from the northeastern corner, the four corners are referred to herein as "Area 1," "Area 2," "Area 3," and "Area 4."

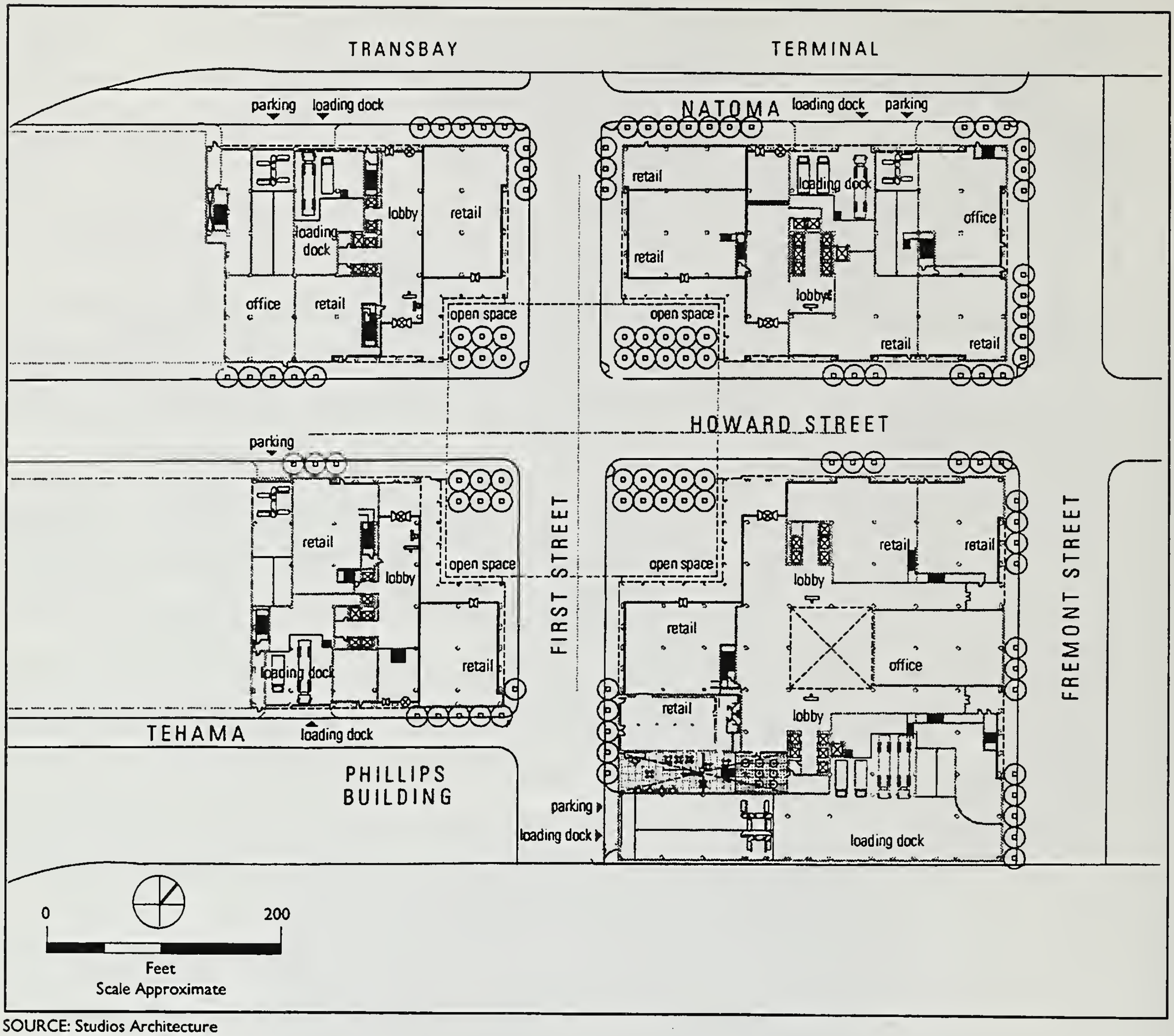
The proposed project is a four-building office development that would be constructed on four parcels with an aggregate land area of approximately 184,800 sq. ft. (see Figure 2). The proposed buildings may be referred to herein as "Building 1, 2, 3, 4," respectively. The project would be designed as a master-planned urban "campus," with a consistent architectural



SOURCE: EIP Associates

FIRST AND HOWARD

FIGURE 1 PROJECT LOCATION



SOURCE: Studios Architecture

FIRST AND HOWARD

FIGURE 2 CONCEPTUAL PROJECT SITE PLAN

theme and identity. The buildings would be designed to meet the facility requirements of technology-intensive firms with regard to space configuration, architecture and image, and building infrastructure (for example, communications facilities, power supply, and mechanical systems). The tenant mix is anticipated to be predominantly companies in the software development, multimedia content or technology, financial services, and professional services businesses. Tenny Place and Sloan Alley are proposed to be vacated and incorporated into project Area 2.

Each building would be nine stories, or about 160 feet tall (including the mechanical penthouses). The eighth and ninth floors of each building would be set back on all sides by varying distances from the base of the building below. The total aggregate office area in the project would be approximately 1,120,000 sq. ft. In addition, there would be approximately 56,000 sq. ft. of ground-floor retail space intended for food services, business services, and other incidental and support uses (see Table 1). The building with the largest floor area would be Building 2, followed by Buildings 1, 4, and 3 (see Table 1). Building 2 would contain a courtyard in the center of the building that would be covered by a skylight at the lobby level and open above to the sky, allowing natural light to reach as much office space as possible. On Parcel 2, 231 First Street would be retained and renovated. The first floor of the 8,700-sq.-ft. building would be reused, possibly for a restaurant. The upper floors of the building would likely be reused as office space. Building 1, and possibly Building 2, would include office space in excess of the base 6:1 FAR. In the C-3-O (SD) district, buildings are permitted at FAR up to 18:1 with transferred development rights (TDR). After the project has been approved, the project would be reviewed by Planning Department staff for TDR under Planning Code Section 128.

Each building would provide two levels of on-site underground attendant and/or self-park parking, totaling about 1,200 spaces (with attendant parking). Entrances/exits to the underground parking levels for Buildings 1 and 4 would be from Natoma Street, for Building 2 from First Street, and for Building 3 from Howard Street (see Figure 2). The amount of space devoted to parking would exceed 7% of the total gross floor area of each building (ranging

TABLE 1
PROJECT SPACE ALLOTMENT

	Building (gross square feet)				
	1	**2**	**3**	**4**	**Total**
Area	45,375	75,625	29,715	34,047	184,762
Open Space	7,500	10,000	6,500	4,800	28,800
Land Use					
Office					
Project	283,000	453,700	178,300	205,000	1,120,000
Existing	53,800	19,600	24,000	88,500	185,900
Net	229,200	434,100	154,300	116,500	934,100
Retail					
Project	16,200	19,900	11,400	8,500	56,000
Existing	0	12,300	7,700	0	20.000
Net	16,200	7,600	3,700	8,500	36,000
Non-Office					
Project	0	0	0	0	0
Existing	0	62,400	0	6,700	69,100
Net	0	-62,400	0	-6,700	-69,100
Total Office + Retail					
Project	299,200	473,600	189,700	213,500	1,176,000
Existing	53,800	31,900	31,700	88,500	205,900
Net	245,400	441,700	158,000	125,000	970,100
Parking					
Area /1/	76,000	125,000	50,000	54,000	305,000
No. of Spaces /2/	325	425	200	225	1,175
Other					
Lobbies	6,000	18,200	5,000	4,900	
Loading	3,700	6,200	5,600	4,900	
Other, Subtotal	*9,700*	*24,400*	*10,600*	*9,800*	54,500

Note:

1. Excludes ramps, elevators, and stairs.
2. About 285 existing surface parking spaces would be displaced by the proposed project.

Source: Studios Architecture, 3/15/99.

from about 24% to 26%), and would require Conditional Use authorization under the Planning Code. Building 1 would provide one loading and two service vehicle spaces. Building 2 would have two loading and two service vehicle spaces, and Buildings 3 and 4 would have one loading and one service vehicle space each.

Loading dock entrances for Buildings 1 and 4 would be from Natoma Street. The loading dock entrance for Building 2 would be from First Street, and the loading dock entrance for Building 3 would be from Tehama Street (see Figure 2). Maneuvering area for Building 2 would be within the building; maneuvering area for the other buildings would be from the street.

The project would provide open space at the four corners of the First and Howard Streets intersection, consisting of an open plaza for each building, as shown on Figure 2, totaling approximately 28,800 sq. ft. (see Table 1). A portion of each plaza would be covered by an overhang created by the third floor. The open space would be designed to be pedestrian-friendly, with seating and strolling areas.

Development would occur with each Area as an individual phase, and would likely begin with Area 1 (Phase 1) by approximately mid-2000. The pace of development would be dependent on market and other factors. Construction of each building would take approximately 15 to 18 months.

The project would require: 1) review under Planning Code Section 309 for compliance with the downtown provisions of the Planning Code and for an exception to the building bulk requirements; 2) project authorization under Planning Code Section 322 for office development; and 3) Conditional Use authorization under Planning Code Sections 204.5 and 303 for parking space in excess of the maximum 7% of total gross floor area. Street vacation and a General Plan referral for the vacation of portions of Tenny Place and Sloan Alley would require review and approval by the Department of Public Works and the Board of Supervisors following a determination on conformity with the *San Francisco General Plan* by the Planning Department.

II. SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS

A. EFFECTS FOUND TO BE POTENTIALLY SIGNIFICANT

This Initial Study examines the First and Howard project to identify its potential effects on the environment. On the basis of this study, project-specific effects that have been determined to be potentially significant relate to transportation, air quality, shadows, wind, and historic architectural resources. These issues will be analyzed in the Environmental Impact Report (EIR). Land use, business displacement, and visual quality/urban design will be discussed in the EIR for informational purposes. Topics noted "TO BE DETERMINED" mean that discussion in the EIR will enable a determination of whether or not there would be a significant impact.

B. EFFECTS FOUND NOT TO BE SIGNIFICANT

The following effects of the First and Howard project have been determined to be either insignificant or to be mitigated through measures included in the project: noise, construction air quality, utilities/public services, biology, geology/topography, water, energy/natural resources, hazards, and archaeological resources. These issues are discussed below and require no further environmental analysis in the EIR.

III. ENVIRONMENTAL EVALUATION CHECKLIST AND DISCUSSION

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS

		Not Applicable	Discussed
1.	Discuss any variances, special authorizations, changes proposed to the City Planning Code or Zoning Map, if applicable.	___	X
2.	Discuss any conflicts with any other adopted environmental plans and goals of the City or Region, if applicable.	X	X

The First and Howard project would require review by the Planning Commission, the Department of Public Works, and the Board of Supervisors in context of the *San Francisco General Plan* and other relevant plans. Applicable Area Plans and Elements of the *General Plan* include the Downtown Plan, the Urban Design Element, the Commerce and Industry Element, and the Rincon Hill Plan. If the project, on balance, were to have substantial conflicts with *General Plan* objectives and policies, it could not be approved.

Plans and Policies will be discussed in the EIR for informational purposes. The EIR will also address the status and probable outcome of Transbay Area planning with the focus on Transbay Terminal location, potential Caltrain extension, proposals for open space and pedestrian networks, and possible rezoning or adoption of a Redevelopment Plan to achieve Transbay Area goals. A brief summary of relevant *General Plan* policies, applicable Zoning Map and Planning Code provisions, street vacation procedures, and discussion of Transferable Development Rights will also be included.

B. ENVIRONMENTAL EFFECTS

Except for the categories of transportation, air quality, shadows, wind, and historic architectural resources as noted above, all items on the Initial Study checklist incorporated herein have been checked "No," indicating that, upon evaluation, staff has determined that the proposed project could not have a significant adverse effect in those areas. Several checklist items have also been checked "Discussed," indicating that the text includes discussion of that particular issue. For all of the items checked "No" without discussion, the conclusions regarding potential adverse environmental effects are based on field observation, staff and consultant experience on similar projects, and/or standard reference materials available within the Planning Department such as the Department's Transportation Guidelines for Environmental Review, or the California Natural Diversity Data Base and maps, published by the California Department of Fish and Game. For each checklist item, the evaluation has considered the impacts of the project both individually and cumulatively.

1. Land Use - Would the project:

	Yes	No	Discussed
a. Disrupt or divide the physical arrangement of an established community?	___	X	X
b. Have any substantial impact upon the existing character of the vicinity?	___	X	X

As noted in the project description, the project site is located between Natoma, Second, Tehama, and Fremont Streets and includes the four corners of the intersection of First and Howard Streets in the Transbay Redevelopment Study Area of San Francisco. This area transitions from high-intensity office use in the Financial District to mixed low-rise commercial uses in the South of Market area. The project site is adjacent to the Transbay Terminal, a structure of local and regional significance; the three-block-long terminal, plus ramps and loops, is used by AC Transit East Bay bus service and Greyhound bus lines. Located within the Transbay Transit Terminal loop which connects to the Bay Bridge to the south, the project site is less intensely developed than nearby areas outside the existing terminal loop and ramps. Existing land uses at the site include warehouse, office, retail outlet, and surface parking. Existing buildings on the project site are less than six stories; most are two- to three-story buildings.

The proposed project would be characterized by office uses with ground-floor retail and subsurface parking, generally consistent with land uses and building heights in the project vicinity. Displacement of existing businesses occupying some buildings on site would occur as a result of demolition associated with the project. The project would extend the Financial District further into the South of Market area, as envisioned in the Downtown Plan in designating the area east of Yerba Buena Center and north of Folsom Street by a Special Development District in the Downtown (C-3-O (SD)).

Overall, the project would be consistent with existing and planned land uses in the vicinity and would not have a substantial adverse effect on land use. However, land use, including additional information on business displacement, will be discussed in the EIR for informational purposes.

2. Visual Quality - Would the project:		Yes	No	Discussed
a.	Have a substantial, demonstrable negative aesthetic effect?	___	X	X
b.	Substantially degrade or obstruct any scenic view or vista now observed from public areas?	___	X	X
c.	Generate obtrusive light or glare substantially impacting other properties?	___	X	X

The project site is adjacent to the Transbay Terminal, new office tower development, and mixed-use low-rise commercial structures in the Transbay Area. The project would replace older, low-scale retail, office, and warehouse buildings and surface parking with mid-rise (four to seven stories) to high-rise (about seven stories) office-type structures up to nine stories tall and subsurface parking. 231 First Street, a Category I Significant Building, would be renovated and would be incorporated into the design of Building 2 as part of the project. The proposed project would increase the scale of development on the project site; the height and bulk of the proposed buildings would be similar to or less than that of other development in the nearby Financial District. The Transbay Redevelopment Study Area includes a mix of new high-rise office structures and older, generally low-scale warehouse, office, and retail buildings. The project would be taller than existing buildings on the site, but shorter than some structures nearby such as the roughly 25-story 100 First Street Delta Tower at Mission Street, and the under-construction 199 Fremont Street building, a 25-story office tower adjacent to the project site. Views of the project site from First Street, from Howard Street, from the nearby Transbay Terminal on Mission Street, and from certain freeway locations would be altered with views of project buildings. The project would not substantially change existing views from public open space, such as The Embarcadero Promenade. Long-range views of the project, such as those from Twin Peaks or Potrero Hill, would be part of overall views of Downtown and would be limited by existing high-rise buildings.

The project would not have substantial adverse effects on views from public open space or from other locations. However, for informational purposes and to assist in the understanding of the project, the EIR will discuss visual quality and urban design and will provide several photomontages of the proposed buildings in context of surrounding structures.

3. Population - Would the project:		Yes	No	Discussed
a.	Induce substantial growth or concentration of population?		X	X
b.	Displace a large number of people (involving either housing or employment)?		X	X
c.	Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?		X	X

The proposed project would demolish a total of 266,300 square feet of existing office, retail, and other commercial space/1/, while renovating 8,700 square feet of existing retail and office space for ground-floor restaurant/retail use and upper-story offices. The project would not construct housing nor would it displace existing housing. Demolition of existing buildings on site would displace approximately nine existing businesses and about 730 employees (or 0.14% of the City's 534,600 employees existing in 1995). Space at the site is not now fully used./2/ Displaced businesses would include the "Fritzi of California" clothing manufacturer. These businesses and employees would be expected to relocate within San Francisco or elsewhere in the Bay area. Fritzi has stated that they will remain in San Francisco./3/ Kellwood Company recently acquired Fritzi of California and stated at the time of acquisition that all existing Fritzi employees would be retained in the existing facilities through 1999./4/ Business displacement within the City is an economic impact that would not be a significant environmental impact under CEQA.

The proposed project would be expected to add approximately 4,200 employees to San Francisco's economy for a net increase of 3,500 employees after adjusting for existing employment/5/ (an increase of 0.7% over the City's 535,000 existing employees)./6/ This increase in employment would be about 0.5% of total employment projected for San Francisco in year 2015 (673,500 employees), and it would be about 2.5% of projected employment growth from 1995-2015 (138,500 jobs)./7/ This potential increase in employment would be small in the context of total employment in San Francisco.

Increases in a city's employment in turn increase demand for local housing. San Francisco is the central city (and most urban place) in an attractive region. The San Francisco Bay Area is known for its agreeable climate, open space, recreational opportunities, cultural amenities, a strong and diverse economy, and prominent educational institutions. As a regional employment center, San Francisco attracts people who want to live close to where they work. These factors continue to support a strong demand for housing in San Francisco. Providing new housing to meet this strong demand is particularly difficult because the amount of land available is limited and because land and development costs are relatively high. For these reasons, San Francisco consistently ranks as one of the most expensive housing markets in the United States.

The proposed project would not create a substantial demand for new housing. Using the City's proposed updated Office Affordable Housing Production Program (OAHPP) methodology, the project would create about 1,200 new San Francisco households in total, of which about 1,180 would be related to office employment./8/ The proposed methodology is used since it more accurately estimates current housing demand. These households would increase total San Francisco households in 1995 (311,430 households) less than one-half percent (0.4%)./9/ They would be less than one-half percent (0.34%) of total households forecast for year 2015 (343,750 households) and they would be 3.7% of the household growth forecast between 1995 and 2015 (32,320 households)./10/ Project-related housing demand would be less than these levels if a greater-than-usual percentage of the proposed project's new employees were already employed elsewhere and were residents of San Francisco.

Housing demand from a single development project, in and of itself, is not a physical environmental effect under CEQA. Under current requirements of Section 313 of the San Francisco Planning Code, the Office Affordable Housing Production Program (OAHPP), the project sponsor would be required to contribute to affordable housing production in San Francisco, either by directly constructing housing or by paying an in-lieu fee of approximately $6.6 million./11/ Complying with OAHPP is the manner in which San Francisco typically addresses housing demand effects from individual office development projects.

Based on the above analysis, no significant physical environmental effects on housing demand or population would occur, and these issues require no further analysis in the EIR. However, for informational purposes the EIR will discuss business displacement associated with the proposed projects under the land use section of the EIR.

NOTES: Population

1. The demolition would include 185,900 gsf of office space, 11,300 (20,000 total minus the 8,700 gsf renovation) gsf of retail space, and 69,100 gsf of other commercial space.

2. Employee displacement estimate based on total square footage of existing occupied space and on average office employee density factors of 275 sq. ft. per employee (conservative capacity estimate assuming 0% vacancy) and 350 sq. ft. per employee for retail and 590 sq. ft. per employee for other commercial (warehouse) space. Sources: City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, Volume III, p. C.4, Table C.6, Density Factors and Assumptions for Estimating Employment for the Proposed Project (from Final Mission Bay EIR, 1990, Volume III, Appendices, p. XIV.A.10, Table XIV.A.2, Density Factors and Assumptions for Estimating Project Area Employment). Also consistent with Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, August 27, 1997, revised March 30, 1998, see p. 40, Table 6, South of Market Employment Projection, Cumulative Growth Analysis, City of San Francisco 1995-2015.

3. Tom Sullivan, Vice President, Development, Wilson Cornerstone, personal communication, February 2, 1999, to EIP Associates.

4. Tom Sullivan, Vice President, Development, Wilson Cornerstone, personal communication, February 2, 1999, to EIP Associates.

5. Employee estimate for the proposed project's 1,120,000 gsf of new office space and 56,000 gsf of new retail (including the 8,700 gsf of renovated existing retail and office) based on average employee density factors of 275 sq. ft. per office employee (conservative capacity estimate assuming 0% vacancy) and 350 sq. ft. per employee for retail space. Sources: City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, Volume III, p. C.4, Table C.6, Density Factors and Assumptions for Estimating Employment for the Proposed Project (from Final Mission Bay EIR, 1990, Volume III, Appendices, p. XIV.A.10, Table XIV.A.2, Density Factors and Assumptions for Estimating Project Area Employment). See also Note 1.

6. City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, Volume I, p. V.C.38, Table V.C.8, Mission Bay Project Area and Rest of City Employment 1995 and 2015. Mission Bay Project Area employment estimates prepared added to "Rest of City" estimates prepared by Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, August 27, 1998, revised March 30, 1998.

7. City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, Volume I, p. V.C.38, Table V.C.8, Mission Bay Project Area and Rest of City Employment 1995 and 2015. Mission Bay Project Area employment estimates prepared added to "Rest of City" estimates prepared by Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, August 27, 1998, revised March 30, 1998.

8. Total project employment at buildout minus existing employment capacity on site. The methodology of the Office Affordable Housing Production Program Ordinance (City and County of San Francisco Planning Code, Section 313) applies only to office development. However, the methodology is used in this Initial Study (as it has in other recent environmental assessments such as the Mission Bay SEIR) to approximately estimate total demand for housing associated with total project employment for informational purposes. Households associated only with office employment are also stated in this Initial Study. To more accurately estimate housing demand for today's socioeconomic conditions, the proposed updated assumptions include 55% of new employees will live in the City in households with an average of 1.6 workers per household (City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, September 1998, Volume IV, Appendix C, p. C.8, Table C.8, Jobs/Housing Analysis for the Proposed Project).

9. City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, Volume I, p. V.C.39, Table V.C.9, Mission Bay Project Area and Rest of City Households, Population, and Employed Residents, 1995 and 2015. Mission Bay Project Area estimates added to "Rest of City" estimates prepared by Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, August 27, 1998, revised March 30, 1998.

10. City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, *Mission Bay Subsequent EIR*, SCH No. 97092068, Volume I, p. V.C.39, Table V.C.9, Mission Bay Project Area and Rest of City Households, Population, and Employed Residents, 1995 and 2015. Mission Bay Project Area estimates added to "Rest of City" estimates prepared by Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, August 27, 1998, revised March 30, 1998.

11. Based on 934,100 square feet of net new gross square footage of office space (see Note 5 and Note 1). City and County of San Francisco Planning Code, Section 313 of the Office Affordable Housing Production Program Ordinance applies only to office development. Section 313 contains provisions and procedures for determining the exact gross square footage to which the in-lieu fee payment factor would be applied, as well as for increasing the fee to keep pace with inflation. The present fee is $7.05 per square foot of office space. As such, the fee estimate in this Initial Study is approximate, with the Planning Department determining the precise fee at a subsequent in the project approval process. Section 313.6 describes the in-lieu fee payment calculation.

4. Transportation/Circulation - Would the project:	Yes	No	Discussed
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	To Be Determined		
b. Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	To Be Determined		
c. Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	To Be Determined		
d. Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?	To Be Determined		

Increased employment at the project site would place increased demands on the local transportation system, including increased traffic, transit demand, and parking demand. The EIR will discuss project effects related to transportation and circulation, including intersection operations, transit demand, and impacts on pedestrian circulation, parking, bicycles, and freight loading, as well as construction impacts. The analysis will take into account the planned Bay Bridge retrofit construction activities and the potential development occurring in the Transbay Redevelopment Study Area.

5. Noise - Would the project:

		Yes	No	Discussed
a.	Increase substantially the ambient noise levels for adjoining areas?	___	X	X
b.	Violate Title 24 Noise Insulation Standards, if applicable?	___	X	X
c.	Be substantially impacted by existing noise levels?	___	X	X

Outdoor noise in the vicinity of the project area includes numerous potential sources of noise. The most significant existing source of noise throughout most of San Francisco is traffic. This is especially true in the project area because of the proximity of the Interstate 80 and Bay Bridge connection routes and the Transbay Transit Terminal bus ramps. Non-traffic noise sources in this area would include construction noise due to other projects in the vicinity such as the Interstate 80 freeway ramps and the Bay Bridge retrofit. The nearest sensitive receptors to the project area would be isolated residential uses, including developments south of Folsom Street.

Effects on Ambient Noise Levels

Construction Noise and Vibration. Construction activities from the project could potentially include pile driving, excavation and hauling, erection, and finishing. Construction activities would be temporary and intermittent and would occur at different times through the phases of project construction. Because each building would likely be constructed consecutively, not concurrently, the construction period could extend to more than five years. For each major phase of development, approximately 1 month would be devoted to demolition, 2 months to excavation, and 12 months for erection and finishing. Demolition and pile driving would be most likely to cause temporary, substantial increases in noise and would be expected to occur for a duration of approximately one to three months for each building.

Construction of other nearby projects, such as the Interstate 80 freeway ramps and the Bay Bridge retrofit that coincide with construction of the proposed development would temporarily increase the overall noise levels in the immediate vicinity of construction activities, as the noise intensity would be greater with a larger number of noise sources.

Noise impacts from construction activities could be reduced in at least three different ways: reduce the sound level at the source, provide the receiver with shielding, and alter the path of sound transmission. To minimize noise and vibration from pile driving, the project sponsor would require project construction contractors to predrill holes to the maximum depth feasible on the basis of soil conditions. Contractors would be required to use construction equipment with state-of-the-art noise shielding and muffling devices. The project sponsor would also require that contractors limit pile driving activity to times of the day that would be consistent with the Noise Ordinance. See Mitigation Measures p. 46.

Construction activities at all projects in the area, including the proposed development, would be conducted in compliance with the San Francisco Noise Ordinance (Article 29, San Francisco Police Code). The ordinance requires that noise levels from individual pieces of construction equipment other than impact tools, not exceed 80 dBA at a distance of 100 feet from the source. Impact tools, such as jackhammers and impact wrenches, must have both intake and exhaust muffled to the satisfaction of the Director of Public Works. Section 2908 of the Noise Ordinance prohibits construction work between 8:00 p.m. and 7:00 a.m., if noise would exceed the ambient noise level by 5 dBA at the project property line, unless a special permit is authorized by the Director of Public Works. Project demolition and construction would comply with the Noise Ordinance. Compliance with the Noise Ordinance is required by law and would reduce any impacts to a less-than-significant level.

Construction activities for the proposed project would generate ground-borne vibration with the environmental noise discussed above. Vibration impacts caused by construction activities vary depending on source, path, and receiver factors. Pile driving is potentially the greatest source of vibration generated from construction activities. Characteristics of the vibration path, or "path factors," are the geologic and structural conditions that the vibration could travel through, including the soil type, depth to bedrock, and building type. The building type is also a vibration receiver factor. Vibration generally reduces as it propagates throughout a building, but resonances within the building structure may also amplify the vibration. In the absence of construction equipment type and operational details, site-specific soil vibration data, building design, and receptor location information, the impacts of construction-related vibration which would be caused by construction are difficult to quantify. Because the pile driving activities would be temporary and intermittent, and the project sponsor would require contractors to schedule pile driving to minimize disturbance to neighbors (see Mitigation Measures p. 46), it is reasonable to assume that potential vibration impacts would be reduced to a less-than-significant level.

Based on the above analysis, no further analysis of construction noise or vibration will be presented in the EIR.

Traffic Noise. Ambient noise levels in the vicinity of the project are typical of noise levels in urban San Francisco. The ambient noise is dominated by vehicular traffic, including trucks, cars, buses, and emergency vehicles. Generally, traffic must double in volume to produce a noticeable increase in noise levels. Traffic volumes would not be expected to double as a result of the project; therefore, substantial increases in traffic noise levels would not be anticipated in the project area. Traffic noise will not be analyzed further in the EIR.

Building Equipment Noise. The proposed project would include mechanical equipment, such as air conditioning units and chillers, which could produce operational noise. These operations would be subject to the San Francisco Noise Ordinance, Article 29 of the San Francisco Police Code. Compliance with Article 29, Section 2909, would limit noise from building operations, and substantial increases in the ambient noise level due to building equipment noise would not be anticipated. Therefore, the EIR will not discuss building equipment noise further.

Interior Noise and Existing Noise Levels

No residential uses would be included with the proposed development. The noise insulation requirements of Title 24 of the California Code of Regulations apply to residential occupancies. Although some level of noise insulation would be provided in the proposed project, the standards of Title 24 would not be applicable.

The existing background noise levels in the project area are typical of noise levels in urban San Francisco. This existing noise would be occasionally noticeable within the proposed buildings and would dominate the noise environment of the proposed project's open space. Because the proposed development does not include new noise sensitive uses, the existing noise environment would not negatively affect occupant use. Based on this information, the effect of existing noise levels on the proposed development will not require further analysis in the EIR.

6. Air Quality/Climate - Would the project:

		Yes	No	Discussed
a.	Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?	To Be Determined		
b.	Expose sensitive receptors to substantial pollutant concentrations?	To Be Determined		
c.	Permeate its vicinity with objectionable odors?	___	X	X
d.	Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?	To Be Determined		

Effects on Ambient Air Quality

Construction Emissions. During construction, air quality could potentially be affected for short periods. Excavation and movement of heavy equipment could create fugitive dust and emit criteria pollutants as a result of diesel fuel combustion. The criteria pollutants or precursors to criteria pollutants are: nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), hydrocarbons (HC), and particulate matter with a diameter of less than 10 microns (PM_{10}). Fugitive dust is made up of particulate matter including PM_{10}.

Construction emissions would occur in short term and temporary phases for each parcel, but they could still cause adverse effects on local air quality. The Bay Area Air Quality Management District (BAAQMD), in its CEQA Guidelines, has developed an analytical approach that obviates the need to quantitatively estimate these emissions. Instead, BAAQMD has identified a set of feasible PM_{10} control measures for construction activities. The project includes these measures (see p. 46) to reduce the effects of construction activities to an insignificant level. San Francisco Ordinance 175-91, adopted by the Board of Supervisors on May 6, 1991, requires that non-potable water be used for dust control activities. Therefore, contractors would obtain reclaimed water from the San Francisco Clean Water Program. Because the project would include these mitigation measures, it would not cause significant construction-related air quality effects. Therefore, the EIR will not address these effects further.

Traffic Emissions. Potential air quality impacts from the proposed project could occur due to increased traffic throughout the region. Region-wide emissions will be assessed in the EIR and compared to the BAAQMD's significance thresholds for regional impacts. Also of concern are CO emissions and the possibility of exceeding CO standards at congested intersections and nearby sensitive receptors. The impact of vehicular CO emissions on local ambient air quality will be assessed in the EIR. CO concentrations will be estimated for existing, future-without-project, and future-with-project conditions. The results of the analysis will be compared to state and federal ambient air quality standards to evaluate impacts.

Exposure to Toxic Air Contaminant Emissions/Objectionable Odors

The proposed project includes new office-space, new retail, and new parking areas. These uses could require operation of natural gas fired boilers or chillers that could emit trace quantities of toxic air contaminants, but they are not expected to have the potential to generate toxic air contaminants in substantial amounts or any objectionable odors. Therefore, the EIR will not discuss this issue further.

Wind Effects

In order to provide a comfortable wind environment for people in San Francisco, the City established specific comfort criteria to be used in the evaluation of proposed buildings in certain areas of the City. The City Planning Code sets forth wind criteria for the proposed project, which is in a C-3 District. Section 148(a) establishes comfort criteria of 11 miles per hour (mph) equivalent wind speed for pedestrians and 7 mph for seating areas, not to be exceeded more than 10% of the time, year-round, between 7:00 a.m. and 6:00 p.m. Winds that reach or exceed 26 mph for a single hour are defined in the Planning Code as hazardous. Developments that would cause wind conditions to exceed the hazardous wind criterion for more than a single hour per year are also restricted in C-3 Districts. The EIR will analyze the project's effects in regard to existing wind conditions. A wind tunnel test will be performed and the effects of the project and the alternatives will be compared to the applicable criteria.

Shadow Effects

City Planning Code Section 295 restricts new shadow upon public spaces under the jurisdiction of the Recreation and Park Department by any structure exceeding 40 feet unless the City Planning Commission, in consultation with the Recreation and Park Commission, finds the impact to be insignificant. In the project vicinity, Justin Hermann Plaza, five blocks northeast, would be subject to Section 295. On the basis of review of preliminary shadow information, the project would not shade areas subject to Section 295./1/ The proposed project could increase shadows on other open space and sidewalks in the vicinity; therefore, a shadow study will be completed and the EIR will discuss its results.

NOTES: Air Quality/Climate

1. The preliminary shadow analysis documenting Section 295 information is on file and available for public review at the Planning Department, 1660 Mission Street.

7. Utilities/Public Services - Would the project:

	Yes	No	Discussed
a. Breach published national, state or local standards relating to solid waste or litter control?		X	X
b. Extend a sewer trunk line with capacity to serve new development?		X	X
c. Substantially increase demand for schools, recreation or other public facilities?		X	X
d. Require major expansion of power, water, or communications facilities?		X	X

Solid Waste

San Francisco's solid waste is disposed of at the Altamont Landfill. A substantial expansion of the landfill was approved in 1997; therefore, the landfill will be able to accommodate San Francisco's solid waste stream well into the future. The solid waste associated with project construction and operation would not substantially affect the foreseeable life of the Altamont Landfill; therefore, the EIR will not further discuss the issue of solid waste generation.

Sewer and Wastewater Treatment Plant Capacity

The site is served by San Francisco's combined sewer system, which handles both sewage and storm water runoff. No new sewer construction would be needed because the project site is already adequately served by sewer infrastructure. Sewers in First and Howard Streets are 3-foot-by-5-foot brick sewers (approximately equivalent to 27-inch to 30-inch sewer lines), and there is a 12-inch sewer line along Fremont Street./1/ New connections would be made from the project buildings to these sewer lines, but no sewer trunk lines with capacity to serve new development are proposed.

Wastewater treatment is provided primarily by the Southeast Water Pollution Control Plant. The project would meet any wastewater pretreatment requirements of the San Francisco Public Utilities Commission, as required by the San Francisco Industrial Waste Ordinance./2/ In addition, the San Francisco Public Utilities Commission's 1998 Bayside Cumulative Impact Analysis identified four major foreseeable development projects in the east half of the City that could have a measurable effect on the volume of discharges from the sewer system. The First and Howard project was not identified as one of those projects. Furthermore, the project would have little effect on the total wastewater volume discharged through the combined sewer system, particularly since storm water runoff contributes greatly to the total flow and the site is already paved (resulting in maximum storm water flows). For these reasons, the EIR will not evaluate demands on wastewater treatment facilities further.

Public Services

The Downtown Area Plan of the *San Francisco General Plan* includes the project site. The Downtown Plan EIR evaluates the demand for public services and utilities serving Downtown. This analysis remains the best available source of information regarding the general nature of the growth anticipated for the area in the future, and the project would fall within the development forecast for Downtown. The Downtown Plan EIR concluded that the demand for utilities and public services resulting from growth in the C-3 districts would not be significant. The project, in particular, would increase demands relatively little when considered within the context of the greater Downtown area, which is already densely developed.

Police and Fire Protection. The project site presently receives police and fire protection services, and the project would create little additional demand for fire and police services in the area. Although the project could increase the number of calls received from the area or the level of regulatory oversight that must be provided as a result of the increased concentration of activity on-site, the increase in responsibilities would not likely be substantial in light of the existing demand for police and fire protection services in Downtown. Furthermore, the increase in demand would not require the construction of any new police of fire prevention facilities. For these reasons, the EIR will not discuss further police or fire protection services.

Power and Communications Facilities

The project site is already served by power utilities and communication facilities. The new buildings would require typical utility connections and could tap into existing power and communications grids. Tenants who may need additional communications facilities, such as fiber optic connections, would need to arrange independently for such connections.
The project would vacate portions of Tenny Place and Sloan Alley on Area 2, and would cover them with the proposed building. The area underneath Tenny Place and Sloan Alley would be part of the proposed underground parking garage. Vacation of these rights-of-way and construction underneath them would require relocation of any water, sewer, electrical, natural gas and telecommunication lines serving adjoining property. Any relocation would be completed without interruption of service to adjacent properties. Therefore, no new power or communications facilities would be necessary as a result of project implementation, and the EIR will not discuss this issue further.

Water Supply Facilities

The project would consume about 175,000 gallons of water per day, which would be about 135,000 gallons per day more than the estimated current consumption of 40,000 gallons per day on the project site. This would incrementally increase the demand for water in San Francisco. However, the new construction would be designed to incorporate water-conserving measures, such as installing low-flush toilets and urinals, as required by California State Building Code section 402.0(c). It is expected that the San Francisco Water Department would provide sufficient water to meet the needs of the project.

In addition, it is expected that the project would use less potable water in the future when the City's reclaimed water system comes on line. The project site is within the Eastside Reclaimed Water Use Area designated by Section 1029 of the Reclaimed Water Use Ordinance (approved November 7, 1991), which added Article 22 to Part II, Chapter X of the *San Francisco Municipal Code (Public Works Code)*. Under this Ordinance, non-residential projects over 40,000 sq. ft. that require a site permit, building permit, or other authorization, and are located within the defined area, must provide for the construction and operation of a reclaimed water system for the transmission of the reclaimed water within buildings and structures or otherwise demonstrate the ability to retrofit the building when the City builds its reclaimed water system. To comply with the Ordinance, the building would be designed with separate plumbing to service uses (*e.g.*, toilets and urinals) that could employ reclaimed water.

Because the project would not result in a substantial increase in water use, it would not result in a significant impact, and therefore, the EIR will not discuss water supply facilities further.

NOTES: Utilities/Public Services

1. Gene Handa, Hydraulic Engineering Section, Bureau of Engineering, Department of Public Works, telephone communication with EIP Associates, January 27, 1999.

2. City and County of San Francisco, Ordinance No. 19-92, San Francisco Municipal Code (Public Works), Part II, Chapter X, Article 4.1 (amended), January 13, 1992.

8. Biology - Would the project:	Yes	No	Discussed
a. Substantially affect a rare or endangered species of animal or plant, or the habitat of the species?	___	X	X
b. Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?	___	X	X
c. Require removal of substantial numbers of mature, scenic trees?	___	X	X

No known rare, threatened or endangered species are known to exist in the vicinity. The proposed project site is in a developed urban area and is completely covered by structures and impervious surfaces. Development of the site would not affect, or substantially diminish, plant or animal habitats. The project would not interfere with any resident or migratory species. The open space proposed as part of the project would include plants and street trees appropriate for the urban landscape of the project site. Therefore, this topic will not be discussed in the EIR.

	Yes	No	Discussed
9. Geology/Topography - Would the project:			
a. Expose people or structures to major geologic hazards (slides, subsidence, erosion and liquefaction)?		X	X
b. Change substantially the topography or any unique geologic or physical features of the site?		X	X

Geologic Hazards

The Community Safety Element of the *San Francisco General Plan* contains maps that show areas subject to geologic hazards. The project site is located in an area that would be subject to "non-structural to moderate" damage (Modified Mercalli Intensity VII to VIII) from seismic groundshaking originated by a characteristic earthquake (Moment Magnitude 7.1) along the San Andreas fault, approximately 6 miles southwest of San Francisco, and Northern Hayward fault, approximately 12 miles northeast of San Francisco (Maps 2 and 3 in the Community Safety Element). The project site also is in an area of liquefaction potential (Map 4 in the Community Safety Element), a Seismic Hazards Study Zone designated by the California Division of Mines and Geology. The project site is not in an area subject to landslide, seiche or tsunami run-up, or reservoir inundation hazards (Maps 5, 6 and 7 in the Community Safety Element)./1/ The project site is not located in an Alquist-Priolo Earthquake Fault Zone./2/

In its review of the building permit application for a development proposal in an area of liquefaction potential, the Department of Building Inspection would require the project sponsor to prepare geotechnical reports to assess the nature and severity of the hazards at the site and to recommend project design and construction features that would reduce those hazards. One or more geotechnical (foundation) investigations for each of the four major phases of the project by a California-licensed geotechnical engineer would be included as part of the project. The project sponsor and its contractors would follow the recommendations of the final geotechnical reports regarding any excavation and construction for the project, including the types of foundations necessary to support various project elements. To ensure compliance with all current San Francisco Building Code provisions regarding structural safety, the Department of Building Inspection would review the geotechnical report and building plans for the proposed project, and determine the necessary engineering and design features to reduce potential damage to structures caused by groundshaking and liquefaction. In this way, amelioration of potential damage to structures from geologic hazards at the project site would be ensured through the Department of Building Inspection requirement for a geotechnical report and review of the building permit application.

The project site is about 21 feet above sea level. The ground surface in the project area slopes down to the northeast toward San Francisco Bay, and the project site currently is covered by one- to five-story brick and concrete buildings (some with and some without basements), and paved parking lots. Phase I Environmental Site Assessments completed in 1998 by Treadwell & Rollo/3/ and Erler & Kalinowski, Inc./4/ for various structures on the project site indicate the site is underlain by unengineered fill material (sand, brick, rubble, etc.) placed in the area during the general filling of the San Francisco waterfront during the 1850s. Thickness of the fill reported at the site ranges from 5 feet to 15 feet, depending on the location sampled. Beneath the fill is fine-grained beach or dune sand to a depth of at least 22 feet below the ground surface. Bay mud was encountered at a nearby site at a depth of about 40 feet below the ground surface. Earlier investigations in the area indicate the Franciscan bedrock (sandstone and shale) is about 185 feet below the ground surface./5/ Groundwater was encountered in the 1998 investigations at depths between 10 and 20 feet below the ground surface.

Because of the composition of the subsurface material at the site, it is probable that at least some of the structures proposed for the site would need pile foundations. Pile driving also is discussed in this Initial Study as a noise issue (see pp. 16-18). A measure to reduce the noise of pile driving is presented on p. 46.

Because of the shallow nature of the water table, it is likely that at least some of the excavations for the proposed structures would need dewatering. The First and Howard project includes mitigation measures (see pp. 46 - 47) to reduce the potential settlement effects of dewatering on nearby streets and properties.

Topography/Unique Geologic Features

The proposed project would not alter the topography of the site, or otherwise affect any unique geologic or physical features of the site.

Based on the above discussion, no further analysis of geology and seismicity or topography is required in the EIR.

NOTES: Geology/Topography

1. City and County of San Francisco, *Community Safety Element, San Francisco General Plan*, April 1997.

2. California Division of Mines and Geology, *Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps,* Special Publication 42, revised 1997, Figure 4B.

3. (a) Treadwell & Rollo, Inc., *Phase I Environmental Site Assessment, Site 2, 204, 210, and 228 First Street, 501 and 509 Howard Street, San Francisco, California*, March 12, 1998.

   (b) Treadwell & Rollo, Inc., *Phase I Environmental Site Assessment, Site 1, 35 and 39 Natoma Street, 168 First Street, 500 and 546 Howard Street, San Francisco, California*, March 18, 1998.

   (c) Treadwell & Rollo, Inc., *Phase I Environmental Site Assessment, Site 6, 172 Fremont Street, 400 Howard Street, San Francisco, California*, March 19, 1998.

4. Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999.

5. (a) Harding Lawson Associates, *Remedial Action Plan, Removal of Hazardous Waste during Foundation Excavation, 301 Howard Street, San Francisco, California*, March 27, 1985, cited in Erler & Kalinowski, Inc., 1999.

   (b) Schlocker, J.C., *Geology of the San Francisco North Quadrangle, California,* United States Geological Survey, Professional Paper 782, Washington, D.C., 1974, Plate 1, map scale 1:24 000

		Yes	No	Discussed
10.	Water - Would the project:			
a.	Substantially degrade water quality, or contaminate a public water supply?	___	X	X
b.	Substantially degrade or deplete ground water resources, or interfere substantially with ground water recharge?	___	X	X
c.	Cause substantial flooding, erosion or siltation?	___	X	X

Water Quality

The project would not substantially degrade water quality or contaminate a public water supply. All sanitary wastewater from the proposed buildings and stormwater runoff from the project site would be collected and treated at the Southeast Water Pollution Control Plant prior to discharge to San Francisco Bay. Treatment would be provided pursuant to the effluent discharge limitations set by the Plant's National Pollutant Discharge Elimination System (NPDES) permit. See pp. 22-23 for a discussion of sewer and treatment plant capacity. See "Flooding, Erosion, and Siltation" below for a discussion of water quality during construction.

Groundwater Resources

The project would include excavation to about 25 feet in depth in order to accommodate two levels of proposed underground parking. Dewatering could be required. Any groundwater encountered during construction would be subject to the San Francisco Industrial Waste Ordinance (Ordinance No. 199-77), which requires that groundwater meet specified standards before being discharged into the sewer system. The Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission would be notified if the project were to require dewatering.

Should dewatering be necessary, the final foundation study for the project would address the potential settlement and subsidence impacts of this dewatering. Based upon this discussion, the foundation study would contain a determination as to whether or not a lateral movement and settlement survey should be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey is recommended, the Department of Building Inspection would require that a Special Inspector (as defined in Article 3 of the San Francisco Building Code) be retained by the project sponsor to perform this monitoring. Groundwater monitoring wells and/or instruments would be used to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable movement were to occur during construction, groundwater recharge would be used to halt this settlement. The project sponsor would delay construction if necessary. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor. The project would include mitigation measures to reduce the potential water quality effects of dewatering (see p. 47).

Flooding, Erosion, and Siltation

The project site is almost entirely paved or covered by structures; therefore, the project would not substantially affect the area of impervious surface at the site or alter site drainage. Project-related wastewater and storm water would continue to flow to the combined sewer system. During construction, requirements to reduce erosion would be implemented pursuant to California Building Code Chapter 33, Excavation and Grading. During operations, the project would comply with all local wastewater discharge requirements. The project would include a mitigation measure to reduce the potential water quality effect of sedimentation (see p. 47).

Based on the above discussion, the EIR will not include further analysis of hydrology and water quality issues.

11. Energy/Natural Resources - Would the project:	Yes	No	Discussed
a. Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	___	X	X

b. Have a substantial effect on the potential use, extraction, or depletion of a natural resource? ___ X X

Energy Use

The project includes new office space, new retail space, and new parking areas. Development of these uses would not result in use of large amounts of fuel, water, or energy. The project would meet current state and local codes concerning energy consumption, including Title 24 of the California Code of Regulations enforced by the Department of Building Inspection. For this reason, it would not cause a wasteful use of energy.

In 1996, the City and County of San Francisco consumed approximately 5,000 gigawatt-hours (GWh) of electricity annually and approximately 27,000,000 million British thermal units (MMBtu) of natural gas annually./1/, /2/ Electricity demand state-wide and in the City tends to grow at approximately 1% to 2% per year./3/ Natural gas consumption is expected to grow similarly but actually peaked for San Francisco in 1989 at approximately 32,000,000 MMBtu and has not yet returned to that level. No energy shortages exist at this time in the State of California.

A forecast of electricity and natural gas consumption of the project is presented in Table 2. Table 2 shows that electricity demand would be approximately 29 GWh, and natural gas demand would be 33,500 MMBtu. This forecast is of energy consumption during occupied operation of the buildings. Additional energy would be consumed during construction of the proposed project and by transportation of the workers to and from the development. Because the project would comply with the energy efficiency regulations of Title 24, it would not be considered to use energy wastefully. Based on this evaluation, no substantial environmental effects are expected from the proposed project, and energy consumption will not be discussed further in the EIR.

Natural Resource Use

Other than natural gas and the coal fuel used to generate the electricity for the project, the project would not use substantial quantities of other non-renewable natural resources. Therefore, the project would not have a substantial effect on the use, extraction, or depletion of a natural resource, and this topic is not required to be further analyzed in the EIR.

TABLE 2
FORECAST OF ANNUAL OPERATIONAL ENERGY CONSUMPTION

Land Use	Building Floor Area (gsf)	Electricity Consumption Factor (kWH/gsf-yr) /1/	Annual Electricity Consumption (1,000 kWh)	Natural Gas Consumption Factor (cf/gsf-yr) /1/	Annual Natural Gas Consumption (MMBtu)
Office	1,120,000	23.05	25,800	26.84	31,500
Retail	56,000	8.51	470	5.08	300
Parking /2/	305,000	8.80	2,700	5.36	1,700
TOTAL			**29,000**		**33,500**

Notes:
gsf = gross square feet
kWH = kilowatt hour
cf = cubic feet
MMBtu = million British thermal units

1. Based on unpublished commercial model data from California Energy Commission, July 1995 forecast. Information provided by Richard Rohrer, Assistant Chief Forecaster, California Energy Commission, July 17, 1997.
2. For parking areas, assume equivalent electric and natural gas consumption factors for non-refrigerated warehouses.

NOTES: Energy/Natural Resources

1. One standard cubic foot of natural gas has an equivalent heating value of approximately 1,050 British thermal units (Btu's). One gigawatt-hour (GWh) is equal to one million kilowatt-hours (10^6 kWh).

2. Andrea Gough, Demand Analysis Office, Energy Forecasting & Planning Division, California Energy Commission, memorandum to EIP Associates, July 25, 1997.

3. California Energy Commission, *Critical Changes: California's Energy Future, The California Energy Plan*, 1997.

12.	Hazards - Would the project:	Yes	No	Discussed
a.	Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?		X	X
b.	Interfere with emergency response plans or emergency evacuation plans?		X	X
c.	Create a potentially substantial fire hazard?		X	X

Public Health Hazards and Hazardous Materials

Hazardous Materials Use. Regarding the potential for public health hazards, the project would involve the development of offices and supporting uses that would require relatively small quantities of hazardous materials for routine business purposes. The development would likely handle common types of hazardous materials, such as paints, cleaners, toners, and solvents. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. Most of these materials are consumed through use, resulting in relatively little waste. Businesses are required by law to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. For these reasons, hazardous materials use in offices and supporting businesses are not typically considered to pose any substantial public health or safety hazards related to hazardous materials.

The greatest volume of hazardous material expected at the project site would be fuel stored in above-ground storage tanks to power emergency generators. The San Francisco Department of Public Health would oversee the design, installation, and operation of these fuel storage tanks. Regulations require provisions to contain possible spills. The Bay Area Air Quality Management District would oversee potential air emissions from testing the emergency generators. As a result of this regulatory oversight and required leak prevention and control measures, the presence of fuel on site for emergency purposes would not be considered to pose any substantial public health or safety hazards.

Soil and Groundwater. Historical activities at the project site and in its vicinity have resulted in the release of contaminants into soil and groundwater. Phase I Environmental Site Assessments have been prepared for the properties that comprise the site, with the exception of a small portion of Area 2 at 224 and 236 Fremont Street./1/ The Phase I investigations list current and past operations, review environmental agency databases and records, report site reconnaissance observations, and summarize potential contamination issues that warrant further investigation. A preliminary Phase II Environmental Site Assessment has been prepared for portions of Areas 1 and 2./2/ The preliminary Phase II investigation reports laboratory test results for limited soil and groundwater sampling at these parcels. The information available in the Phase I and preliminary Phase II studies is summarized by parcel in Table 3. The project site does not appear on the *State of California Hazardous Waste and Substances Sites List*, but some nearby properties, such as 150 First Street and 175 Natoma Street, appear on the list as a result of underground storage tanks that have leaked./3/ These leaks do not appear to have affected conditions at the project site./4/

Between 1854 and 1891 the San Francisco Gas Light Company operated a coal gasification facility at the project site, as indicated in Table 3. The facility included a gas holder, a tar kettle, and gas purifying operations, and covered a substantial portion of the site, particularly Area 1 and the northern portion of Area 2. Other early uses of the site included foundry and smelting operations. Historic uses at Areas 3 and 4 tended to be less industrial than those at Areas 1 and 2./5/

In the early 1900s, much of the project area was filled with debris from the 1906 San Francisco Earthquake and the fire that followed. Fill material from this period often contains elevated levels of various metals, petroleum hydrocarbons, and polynuclear aromatic hydrocarbons. These substances were detected in soil samples collected at the site./6/ Preliminary sampling has identified metals (particularly lead) in some soil samples at

TABLE 3
HISTORIC USES OF THE PROJECT SITE AND EXISTING SITE CONDITIONS

Area	Historic Uses /1/		Existing Site Conditions
1	1887 1899 1913 1949 1970 1971 Present	Coal gasification, gas purification (tar kettle & gas holder), ammonia manufacturing Brass foundry, iron foundry Boiler works, pump and compressor manufacturing, scrap metal storage Gas station, ship service shop Gas station No gas station Parking, clothing manufacturing, warehouses, offices	*Soil and Fill:* Contains metals, petroleum hydrocarbons (as creosote), polynuclear aromatic hydrocarbons, and volatile organic compounds. The highest concentration of polynuclear aromatic hydrocarbons is in what is apparently one large piece of possible coal tar residue. *Groundwater:* Contains chromium, cyanide, halogenated volatile organic compounds (including trichloroethylene), volatile petroleum hydrocarbons (including benzene and xylenes). Some contaminants exceed maximum contaminant levels for drinking water, but none have been detected above San Francisco Public Utilities Commission sanitary sewer discharge limits (therefore groundwater pumped from the site could be discharged to the combined sewer system). *Building Materials:* Former-underground storage tanks are present. Asbestos is likely. Polychlorinated biphenyls and lead-based paint are possible. Other hazardous materials may be present. *Neighboring Sites:* A release occurred at the nearby Transbay Terminal. Volatile organic compounds there, including trichloroethylene and vinyl chloride, have not been addressed, but there is little potential for contamination at the project site, which is cross-gradient to the Transbay Terminal./2/
2	1887 1899 1913 1949 1970 Present	Gas purification, foundry, smelting, lead and shot works, spring works, iron works, machine shop Foundry, smelting, refining, lead and shot works, machine shop, millwright works, iron works Foundry, smelting, lead and shot works, machine shop, iron works Welding, machine shop, plating, clothing manufacturing, battery service Clothing manufacturing, ink manufacturing, machine shop Parking, clothing manufacturing, warehouses, offices	*Soil and Fill:* Contains metals, petroleum hydrocarbons (as creosote, motor oil, kerosene, and diesel), polynuclear aromatic hydrocarbons, and volatile organic compounds. Metals (primarily lead) exceed hazardous waste criteria. *Groundwater:* Contains chromium, cyanide, halogenated volatile organic compounds (including trichloroethylene). Some contaminant concentrations exceed maximum contaminant levels for drinking water, but none have been detected above San Francisco Public Utilities Commission sanitary sewer discharge limits. *Building Materials:* Former underground storage tanks could be present. Asbestos is likely. Lead-based paint is possible. Other hazardous materials may be present.

TABLE 3
HISTORIC USES OF THE PROJECT SITE AND EXISTING SITE CONDITIONS (Continued)

Area	Historic Uses /1/		Existing Site Conditions
3	1887	Stores, hotels, residences	*Soil and Fill:* Contains fill from the 1906 earthquake and fire. Similar sites have had elevated levels of petroleum hydrocarbons, coal gas waste, and metals. *Building Materials:* Asbestos is possible. Other hazardous materials may be present. *Neighboring Sites:* A release occurred at the nearby Transbay Terminal. Volatile organic compounds there, including trichloroethylene and vinyl chloride, have not been addressed, but there is little potential for contamination at the project site, which is cross-gradient to the Transbay Terminal.
	1899	Machine shop, hotels, residences	
	1913	Metal works, machine shop, chemical company, printing, lithography, linotype, plumbing, carpentry	
	1949	Machine shop, printing, lithography, linotype, garment factory	
	1970	Printing, lithography, linotype, garment and luggage factories	
	Present	Parking, cash register sales and service, software sales, furniture assembly & repair	
4	1887	Restaurant, hotel, school, residences	*Soil and Fill:* Contains fill from the 1906 earthquake and fire. Similar sites have had elevated levels of petroleum hydrocarbons, coal gas waste, and metals. *Building Materials:* Asbestos is possible. Other hazardous materials may be present. *Existing Operations:* Graphic Arts Engraving is a generator of small quantity hazardous waste (i.e., silver metal sludge). Its Hazardous Materials Management Plan reports up to 130 gallons of hazardous liquids (i.e., photographic developers and fixers) on site at any one time. No releases have been reported.
	1899	Machine shop, fence company work shop, restaurant, hotel, school, residences	
	1913	Garage	
	1949	Printing shop, garage	
	1970	Engraving, parking	
	Present	Engraving, parking, offices, printing & photography .	

Notes:

1. Historic uses were determined primarily by examining historic Sanborn fire insurance maps.
2. Groundwater at the Transbay Terminal is believed to flow northeast, whereas the project site is located southeast of the Transbay Terminal. Groundwater contaminants at the Transbay Terminal would be expected to flow in the direction of the groundwater flow and not toward the project site.

Sources: EIP Associates.

Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999.

Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 1, 35 and 39 Natoma Street, 168 First Street, 500 and 546 Howard Street, San Francisco, California*, March 18, 1998.

Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 2, 204, 210, and 228 First Street, 501 through 509 Howard Street, San Francisco, California*, March 12, 1998.

Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 6, 172 Fremont Street, 400 Howard Street, San Francisco, California*, March 19, 1998.

concentrations that exceed hazardous waste criteria./7/ Black, glass-like material containing polynuclear aromatic hydrocarbons apparently exists at Area 1./8/ This material, possibly coal tar residue, likely resulted from the coal gasification plant located at Area 1 in the 1800's. In some groundwater samples, concentrations of chromium, benzene, trichloroethylene, dichloroethene, vinyl chloride, and cyanide exceed maximum contaminant levels for drinking water (although water at the site is not used for drinking purposes)./9/

Project plans call for the excavation and removal of roughly 170,000 cubic yards of soil from the project site. If contaminated areas at the project site were to be excavated, contaminated soil or groundwater could be encountered. Without appropriate safeguards, earth-moving activities could potentially expose workers and possibly the public to chemical compounds in soils, soil gases (gases or vapors, mostly air, trapped within soil), or groundwater. Exposure would most likely occur through skin contact or inhalation. Workers directly engaged in on-site activities would face the greatest potential for exposure to contaminants. The public could also be exposed if access to the construction site were insufficiently controlled. Hazardous materials exposure could cause various short-term or long-term health effects specific to each chemical present at the site if present in sufficient concentration and duration.

Area 1 was historically part of San Francisco Bay; therefore, it is subject to Article 20 of the San Francisco Public Works Code (the Maher Ordinance). The Maher Ordinance requires that applicants for building permits within certain areas (largely the part of San Francisco created by landfill) prepare a site history and analyze the site's soil for hazardous wastes. The analysis is required if more than 50 cubic yards of soil are to be disturbed and the project is either on fill or at a location designated for investigation by the Department of Public Works. Where the analysis reveals the presence of hazardous wastes, the ordinance requires site mitigation pursuant to the standards, regulations, and determinations of local, state, and federal regulatory agencies. Site mitigation is to involve the removal of hazardous substances and their disposal at an approved disposal site, or other appropriate actions.

The proposed project could disturb roughly 42,000 cubic yards of soil at Area 1, and in compliance with the Maher Ordinance, a site history report and site investigation report would be prepared for the parcel. Where hazardous wastes exceed local, state, or federal standards, a Site Mitigation Plan would be submitted to appropriate agencies, including the San Francisco Department of Public Health. The Site Mitigation Plan would be prepared prior to obtaining a building permit. Where toxic materials are found for which no standards have been established, a determination would be sought from appropriate agencies as to whether a Site Mitigation Plan would be needed. In accordance with the Maher Ordinance, the construction contractor would handle and dispose of excavated soils properly, employ worker health and safety and dust control procedures, and have a State Registered Professional Geologist or Engineer certify, at the completion of foundation activities, that all elements of the Site Mitigation Plan have been performed in compliance with the Maher Ordinance.

The Maher Ordinance does not apply to Areas 2, 3, or 4. Soil and groundwater contaminants at these locations would need to be characterized to ensure that appropriate plans are implemented for soil and groundwater handling. Any contaminated soil and groundwater disturbed at the site would need to be managed appropriately, and residual risks to future occupants of the site would need to be kept within acceptable levels as determined by the San Francisco Department of Public Health and other appropriate oversight agencies. Unless soil and groundwater management plans are adequately prepared and implemented, the project could pose a significant impact by potentially creating a substantial human health hazard or involving the disposal of materials in a manner that poses substantial hazards.

The project includes a mitigation measure to characterize soil and groundwater conditions on Areas 2, 3, and 4, by preparing Phase I and Phase II Environmental Site Assessments. If the Phase I or Phase II reports concluded that existing soil and groundwater conditions would pose significant human health or safety hazards, a Site Safety and Health Plan would need to be prepared pursuant to California Division of Occupational Safety and Health (Cal-OSHA) requirements and National Institute for Occupational Safety and Health guidance to ensure worker safety./10/ Under Cal-OSHA requirements, the Site Safety and Health Plan would need to be prepared prior to initiating any earth-moving activities at the site. The Plan would contain policies and procedures to protect site workers from potential health and safety impacts related to contaminated soil and groundwater. The Plan would apply to all site activities through the completion of earthwork construction. It would include specific training requirements and personal protection equipment for on-site workers. With regard to public safety and health, the Site Safety and Health Plan is not required to include measures to minimize the potential for public exposure. A mitigation measure is included to minimize potential public exposure (pp. 47-49).

Building Materials. Existing buildings at the project site could contain hazardous materials, such as asbestos, polychlorinated biphenyls, lead, mercury, or other hazardous materials. In the past, asbestos, polychlorinated biphenyls, and lead were commonly installed in insulation, floor tiles, roofing tar, electrical transformers, fluorescent light ballasts, and paint. Mercury is common in electrical switches and fluorescent light bulbs. If such hazardous materials exist in buildings to be demolished, they could pose hazards to workers, neighbors, or the natural environment. However, the project includes a mitigation measure (see pp. 47-49) intended to reduce to the potential health risks associated with building materials containing asbestos, polychlorinated biphenyls, lead, mercury, or other hazardous materials by securing the investigation, removal, and disposal of these materials prior to demolition of the buildings.

The measure would ensure compliance with existing regulations applicable to the management of any potentially hazardous building components. For example, the BAAQMD regulates airborne asbestos and is to be notified ten days in advance of any proposed demolition. It randomly inspects asbestos removal operations. The California Division of Occupational Safety and Health is also to be notified of asbestos abatement operations. It oversees requirements placed on asbestos abatement contractors whenever asbestos-related work involves 100 sq. ft. or more of asbestos-containing material. Because buildings constructed prior to 1979 are assumed to contain lead-based paint, demolition activities involving lead-based paint are to comply with Chapter 36 of the *San Francisco Building Code*. The ordinance requires that containment barriers be at least as protective of human health and the environment as those in the most recent *Guidelines for Evaluation and Control of Lead-Based Paint Hazards* promulgated by the U.S. Department of Housing and Urban Development./11/ Polychlorinated biphenyls are regulated under the federal Toxic Substances Control Act of 1976, and mercury is regulated as a hazardous waste. These existing laws and regulations would help to ensure the health and safety of workers, neighbors, and the natural environment.

Emergency Response Plans

The project sponsor would develop an evacuation and emergency response plan in consultation with the Mayor's Office of Emergency Services to ensure coordination between San Francisco's emergency planning activities and the project sponsor's plan to provide for building occupants in the event of an emergency. The project sponsor's plan would be reviewed by the Office of Emergency Services and implemented before the Department of Public Works issued final building permits.

Fire Hazards

The project would be required to comply with the San Francisco Fire Code, which contains specifications for fire prevention measures such as fire extinguishing systems, emergency exits/routes, and storage of hazardous materials. Therefore, the project would not create a potentially substantial fire hazard.

Potential health and safety issues related to potentially contaminated building components, contaminated soil and groundwater, and future use of hazardous materials on site would be reduced to less-than-significant levels, with implementation of the mitigation measures identified on pp. 47-49 that are included in project development. Therefore, these issues do not require further analysis and will not be discussed in the EIR.

NOTES: Hazards

1. (a) Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999.

(b) Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 1, 35 and 39 Natoma Street, 168 First Street, 500 and 546 Howard Street, San Francisco, California*, March 18, 1998.

(c) Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 2, 204, 210, and 228 First Street, 501 through 509 Howard Street, San Francisco, California*, March 12, 1998.

(d) Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 6, 172 Fremont Street, 400 Howard Street, San Francisco, California*, March 19, 1998.

2. Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999.

3. California Department of Toxic Substances Control, *State of California Hazardous Waste and Substances Sites List*, April 1998, pp. 211-216.

4. (a) Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999, pp. 23, 24, and 42.

   (b) Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 1, 35 and 39 Natoma Street, 168 First Street, 500 and 546 Howard Street, San Francisco, California*, March 18, 1998, p. 7.

   (c) Treadwell & Rollo, *Phase I Environmental Site Assessment, Site 6, 172 Fremont Street, 400 Howard Street, San Francisco, California*, March 19, 1998, p. 7.

5. Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999, pp. 21, 22, and 42.

6. Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999, pp. 17, 35-39, and 42.

7. Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999, pp. 36, 37, and 43.

8. Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999, pp. 37 and 44.

9. Erler & Kalinowski, Inc., *Phase I and Preliminary Phase II Environmental Site Assessment Report for Fritzi of California Properties, First & Howard Streets, San Francisco, California*, March 26, 1999, pp. 39-41 and 44.

10. California Code of Regulations, Title 8, Section 5192, "Hazardous Waste Operations and Emergency Response."

    National Institute for Occupational Safety and Health, U.S. Occupational Safety and Health Administration, U.S. Coast Guard, and U.S. Environmental Protection Agency, *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, U.S. Department of Health and Human Services Publication No. 85-115, October 1985.

11. U.S. Department of Housing and Urban Development, *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing,* June 1995 (Chapter 7 revised 1997).

13. Cultural - Would the project:	Yes	No	Discussed
a. Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study?	___	X	X
b. Conflict with established recreational, educational, religious or scientific uses of the area?	___	X	___
c. Conflict with the preservation of buildings subject to the provisions of Article 10 or Article 11 of the City Planning Code?	To Be Determined		

Archaeological Resources

Archeo-Tec Consulting Archaeologists completed an archival cultural resources evaluation of the project vicinity for potential subsurface historic or pre-historic resources and to document the history of the area./1/ Potential for the existence of subsurface cultural resources of the prehistoric/protohistoric period (c. 4000 B.C. - A.D. 1775), Spanish/Mexican and Early American era (1776-1848), and the Gold Rush and Later 19th Century eras (1849-c. 1906) were systematically examined.

The project site existed in a natural state as sand hills adjacent to or partially submerged by the original western shoreline of the San Francisco Bay, until landfill and grading of the area in the late 1850s. The Gold Rush-era community of Happy Valley was bordered to the south by First and Howard Streets. Happy Valley was originally a tent city on the outskirts of the city of Yerba Buena, now known as San Francisco. By the late 1850s, the project area had been greatly changed. The project site and surrounding areas had been graded and paved to give rise to industrial uses in the area. Industrial facilities at or adjacent to the project site included the San Francisco Gas Works (predecessor to Pacific Gas & Electric Company), Union Ironworks, the Vulcan Foundry, the Eagle Iron Works, and the Pacific Iron Foundry. South of Market industrial facilities such as these were central to the City's economic prosperity in the second half of the 19th century. A local landmark, the Selby Shot Tower, a 200-foot-tall tower named for Thomas Selby (mayor of San Francisco from 1869 to 1871), stood on the project site at the southeast corner of First and Howard Streets from 1864 to 1904. The Earthquake and Fire of 1906 consumed the South of Market area, including the project site. After 1906, the project site and its immediate surroundings began to assume the essential architectural and demographic contours that have characterized the region throughout the remainder of the 20th century. The project site is now characterized by warehouse, office, and retail outlet uses near the Transbay Terminal; buildings on or adjacent to the project site represent a variety of 20th century architectural styles, including early 20th century industrial, Art Deco, eclectic revival styles, and modern commercial.

While there is no record of significant resources of the prehistoric period, the area "should be considered as a zone of potential sensitivity with respect to the possible existence of significant prehistoric/protohistoric subsurface cultural resources."/2/ A significant prehistoric archaeological deposit, previously unrecorded, was recovered in 1986 about two blocks north of the project site, at the southwest corner of Stevenson and Ecker Streets. This discovery was made at a site with a similar natural environmental setting as the proposed project site. Two additional previously unrecorded prehistoric sites have been encountered within a one-half mile radius of the proposed project site.

Prior to the Gold Rush era, there is no historical record of settlement or occupation on the project site and records indicate that the area remained in its natural state, as noted above. As a result, historic cultural resources from the Spanish/Mexican and Early American era (1776-1848) would not likely be encountered at the project site.

There is no record of subsurface cultural resources from the Gold Rush period found at the project site. However, as the borders of Happy Valley were at approximately First and Howard Streets, the project site may be a sensitive area for remains from the Gold Rush-era, encountered as deeply buried deposits. Such remains have been uncovered near the project site, near the northwest corner of First Street and Minna Street. Historical sources do not indicate past or recent evidence of Gold Rush-era ship hulks or related maritime cultural resources in the project vicinity.

As the project site and vicinity were consumed by the Earthquake and Fire of 1906, potential for the discovery of archaeological remains of the Late 19th Century era is low but cannot be entirely discounted.

The proposed project may include excavating the project site to a depth of 25 feet to accommodate foundations and subsurface parking facilities. Based upon archival evidence, the proposed project may disrupt or adversely affect prehistoric resources or historic archaeological resources from the Gold Rush era. The project includes a mitigation measure (see pp. 49-50) that is intended to reduce the potential impact to cultural resources to a less-than-significant level. Archaeological resources will not be discussed further in the EIR.

Historic Architectural Resources

The project site and vicinity include structures identified as historic architectural resources by the San Francisco Planning Code and other surveys. 231 First Street, the old Thomson Machine Works Building, is listed as a Category I building under Article 11 of the Planning Code, the highest rating for architectural resources. The proposed project would retain and rehabilitate this building. 401 Howard Street and 218 Fremont Street, located on Area 2, are considered eligible or potentially eligible, respectively, for the National Register of Historic Places. Demolition of these two structures, as proposed by the project, may be a significant effect.

Architectural resources and potential effects of the project will be evaluated in the EIR. The EIR will also summarize architectural surveys and evaluations completed for the site and vicinity to include City Planning Code Article 10 and Article 11 listings, the Embarcadero Freeway/Terminal Separator Replacement EIR/EIS Section 106 process, and Transbay Area planning. If appropriate, mitigation measures related to the loss of architectural resources will be discussed in the EIR.

NOTES: Cultural

1. Archeo-Tec, *Archival Cultural Resources Evaluation of the Proposed First and Howard Development Project*, City and County of San Francisco, California, January 1999.

2. Archeo-Tec, *Archival Cultural Resources Evaluation of the Proposed First and Howard Development Project*, City and County of San Francisco, California, January 1999.

C. OTHER

	Yes	No	Discussed
Require approval of permits from City Departments other than Department of City Planning or Bureau of Building Inspection or from Regional, State or Federal Agencies?	X		

A list of approvals and permits necessary for the project is presented in the project description on p. 6.

D. MITIGATION MEASURES

	Yes	No	N/A	Discussed
1. Could the project have significant effects if mitigation measures are not included in the project?	X			X
2. Are all mitigation measures necessary to eliminate significant effects included in the project?	X			X

Noise

1. If pile driving is necessary to install pile foundations, the project sponsor would require construction contractors to predrill holes to the maximum depth feasible on the basis of soil conditions. Contractors would be required to use construction equipment with state-of-the-art noise shielding and muffling devices. The project sponsor would also require that contractors schedule pile driving activity for times of the day that would be consistent with the Noise Ordinance.

Air Quality / Climate

2. The project sponsor would require its contractors to implement as appropriate the BAAQMD's guidelines on basic control measures for emissions of dust during construction: (1) water all active construction areas at least twice daily; (2) cover all trucks hauling soil, sand, and other loose materials or require trucks to maintain at least two feet of freeboard; (3) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas; (4) sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas; (5) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Geology / Topography

3. The project sponsor would ensure that the construction contractor conducts a pre-construction survey of existing conditions and monitors any adjacent buildings for damage during construction, if recommended by the geotechnical engineer, in the foundation investigations.

4. If dewatering were necessary, the final foundation report would address the potential settlement and subsidence impacts of this dewatering. Based on this discussion, the foundation report would determine whether or not a lateral movement and settlement survey would be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey were recommended, the Department of Building Inspection would require that a Special Inspector (as defined in Article 3 of the San Francisco Building Code) be retained by the project sponsor to perform this monitoring.. Instruments would be used to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable movement were to occur during construction, groundwater recharge would be used to halt this settlement. The project sponsor would delay construction if necessary. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor.

   If dewatering were necessary, the project sponsor and its contractor would follow the geotechnical engineers' recommendations regarding dewatering to avoid settlement of adjacent streets, utilities, and buildings that could potentially occur as a result of dewatering.

5. The project sponsor and its contractor would follow the geotechnical engineers' recommendations regarding installation of settlement markers around the perimeter of shoring to monitor any ground movements outside of the shoring itself. Shoring systems would be modified as necessary in the event that substantial movements are detected.

Water Quality

The project sponsor would ensure that groundwater from site dewatering and stormwater runoff meets the discharge limitations of the City's Industrial Waste Ordinance by carrying out the following:

6. If dewatering were necessary, the project sponsor would follow the recommendations of the geotechnical engineer or environmental remediation consultant, in consultation with the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission, regarding treatment, if any, of pumped groundwater prior to discharge to the combined sewer system.

   If dewatering were necessary, groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission to reduce the amount of sediment entering the combined sewer system.

7. The project sponsor would require the general contractor to install and maintain sediment traps in local storm water intakes during construction to reduce the amount of sediment entering the combined sewer system, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission.

Hazards

8. In addition to local, state and federal requirements for handling soil and groundwater containing designated levels of chemicals, the project sponsor would enter into a voluntary remedial action agreement with the Department of Public Health pursuant to Health and Safety Code Section 101480 et seq. At a minimum, the project sponsor would undertake the following work and any additional requirements imposed by the Department of Public Health under the agreement.

   a. A Phase I Environmental Site Assessment would be prepared for any portion of the project site for which a Phase I assessment has not already been completed (i.e., 224 and 236 Fremont Street, Assessor's Block 3737, lot 3). The investigation would list current and past uses of the lot, review environmental agency databases and records, report site reconnaissance observations, and summarize potential contamination issues, including any that warrant further investigation. The assessment would be completed by a Registered Environmental Assessor (REA) or a similarly qualified individual prior to initiating any earth-moving activities at the affected portion of the project site.

One or more Phase II Environmental Site Assessments would be prepared for areas of the project site not subject to San Francisco's Maher Ordinance. (This measure is required by law for areas subject to the Maher Ordinance.) On the basis of historical uses and the conclusions of the Phase I Environmental Site Assessments, soil or groundwater samples, or both, would be collected throughout the project site as directed by the site assessment consultant. Sampling would extend at least to depths proposed for excavation. The samples would be analyzed to identify and quantify any contamination. These studies would be completed by an REA or a similarly qualified individual prior to initiating any earth-moving activities at the site.

If findings in the Phase I and Phase II reports result in the preparation of a Site Safety and Health Plan, in addition to measures that protect on-site workers, the Plan would include measures to minimize public exposure to contaminated soils. Such measures would include dust control, appropriate site security, restriction of public access, and posting of warning signs, and would apply from the time of surface disruption through the completion of earthwork construction.

b. Prior to any demolition or excavation at the project site, surveys would be conducted to identify any potentially hazardous materials in existing buildings or building materials. At a minimum, these surveys would identify any asbestos, polychlorinated biphenyls, lead, mercury, or other hazardous materials that would require removal and disposal before demolition. Wherever former site uses or site reconnaissance observations reported in the Phase I Environmental Site Assessments suggest the potential for underground storage tanks or related piping to be present, magnetic surveys or other appropriate surveys would be conducted to locate underground storage tanks. If any are identified, the San Francisco Department of Public Health would determine whether they must be removed or whether they may be closed in place. These surveys would be completed by an REA or a similarly qualified individual.

c. All reports and plans prepared in accordance with Mitigation Measure No. 8 would be provided to the San Francisco Department of Public Health and any other agencies identified by the Department of Public Health. When all hazardous materials have been removed from existing buildings, and soil and groundwater analysis and other activities have been completed, as appropriate, the project sponsor would submit to the San Francisco Planning Department and the San Francisco Department of Public Health (and any other agencies identified by the Department of Public Health) a report stating that the mitigation measure has been implemented. The report would describe the steps taken to comply with the mitigation measure and include all verifying documentation. The report would be certified by an REA or a similarly qualified individual who states that all necessary mitigation measures have been implemented.

Archaeological Resources

9. Given the location and depth of excavation proposed, and the likelihood that archaeological resources would be encountered on the project site, the sponsor has agreed to retain the services of an archaeologist. The archaeologist would conduct a pre-excavation testing program to better determine the probability of finding cultural and historical remains. The testing program would use a series of mechanical, exploratory borings or trenches or other testing methods determined by the archaeologist to be appropriate.

If, after testing, the archaeologist determines that no further investigations or precautions are necessary to safeguard potentially significant archaeological resources, the archaeologist would submit a written report to the Environmental Review Officer, with a copy to the project sponsor. If the archaeologist determines that further investigations or precautions are necessary, he or she would consult with the Environmental Review Officer, and they would jointly determine what additional procedures are necessary to minimize potential effects on archaeological resources.

These additional measures would be implemented by the project sponsor and could include a program of on-site monitoring of all site excavation, during which the archaeologist would record observations in a permanent log. The monitoring program, whether or not there are findings of significance, would result in a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor. During the monitoring program, the project sponsor would designate one individual on site as its representative. This representative would have the authority to suspend work at the site to give the archaeologist time to investigate and evaluate archaeological resources if they are encountered.

If evidence of cultural resources of potential significance were found during the monitoring program, the archaeologist would immediately notify the Environmental Review Officer, and the project sponsor would halt any activities that the archaeologist and the Environmental Review Officer jointly determine could damage such cultural resources. Ground disturbing activities that could damage cultural resources would be suspended for a total maximum of four weeks over the course of construction of each building.

After notifying the Environmental Review Officer, the archaeologist would prepare a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor, which would contain an assessment of the potential significance of the find and recommendations for what measure should be implemented to minimize potential effects on archaeological resources. Based on this report, the Environmental Review Officer would recommend specific additional measures to be implemented by the project sponsor. These additional measures could include a site security program, additional on-site investigations by the archaeologist, or documentation, preservation, and recovery of cultural material.

Finally, the archaeologist would prepare a report documenting the cultural resources that were discovered, an evaluation as to their significance, and a description as to how any archaeological testing, exploration or recovery program is to be conducted.

Copies of all draft reports prepared according to this mitigation measure would be sent first and directly to the Environmental Review Officer for review. Following approval by the Environmental Review Officer, copies of the final reports would be sent by the archaeologist directly to the President of the Landmarks Preservation Advisory Board and the California Archaeological Site Survey Northwest Information Center. Three copies of the final archaeology reports would be submitted to the Environmental Review Officer, accompanied by copies of the transmittals documenting its distribution.

E. ALTERNATIVES

The EIR will discuss several alternatives to the proposed project that would reduce or eliminate any significant environmental effects. The alternatives will include the following:

1. No Project

2. Base FAR: reducing office space to the base 6:1 FAR on Areas 1 and 4; and reducing parking in all four buildings to the Planning Code maximum of 7% of total gross floor area as an accessory use, plus replacement for short-term spaces in use on the project site.

3. Preservation: designing Building 2 to incorporate 231 First Street, 218 Fremont Street, and 401 Howard Street in a way that would preserve these known or potential historic architectural resources, while maintaining overall project development at 1,120,000 sq. ft. of office and 56,000 sq. ft. of retail. This alternative would result in the same floor area and building height and bulk for Buildings 1, 3, and 4 as the proposed project, but would result in a taller Building 2 that would have different wind and shadow effects than the proposed project.

4. Reduced Development: substantially reducing office floor area to about 775,000 sq. ft. and retail floor area to about 38,000 sq. ft. in order to reduce associated vehicle trips and meet the Bay Area Air Quality Management District screening-level threshold of 80 pounds per day for NO_x, PM_{10}, and reactive organics. Retail uses would remain on the ground floors of each building, and 231 First Street would be retained.

F. MANDATORY FINDINGS OF SIGNIFICANCE

	Yes	No	Discussed
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?	X		X
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		X	
3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	X		X
4. Would the project cause substantial adverse effects on human beings, either directly or indirectly?		X	

The project may eliminate important historical architectural resources with demolition of all but one of the existing structures on the project site. The project could contribute to cumulative traffic, transit and air quality impacts in San Francisco and the Bay Area.

F. ON THE BASIS OF THIS INITIAL STUDY:

___ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

___ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers ___, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

X I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

3/27/99
Date

Hillary E. Gitelman
Environmental Review Officer
for Gerald G. Green
Director of Planning

APPENDIX B. WIND

WIND TUNNEL ANALYSIS FOR THE PROPOSED WILSON CORNERSTONE FIRST AND HOWARD PROJECT, SAN FRANCISCO

Prepared for:

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July 1999

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I. INTRODUCTION

The proposed project would be an office complex on four sites at the intersection of First and Howard Streets in San Francisco. Existing uses of the site consist of a mix of office, retail, and surface parking. Buildings on the site are mostly three stories and under, with a couple of four- and five-story buildings.

The proposed project is a four-building office development that would be constructed on four parcels. Each building would be nine stories, or about 160 feet tall (including the mechanical penthouses). The eight and ninth floors of each building would be set back on all sides by varying distances from the base of the building below. The total aggregate office space would be approximately 1,120,000 sq. ft. with 56,000 sq. ft. of ground-floor retail space. The project would provide open space at the four corners of the First and Howard Streets intersection, consisting of an open plaza for each building. The open space would be designed to be pedestrian-friendly, with seating and strolling areas.

The following scenarios were tested in the wind tunnel:

(1) existing conditions (including approved and under-construction projects),

(2) conditions with the construction of the proposed project,

(3) conditions with the construction of the project together with cumulative projects (proposed but not yet approved),

(4) conditions with the construction of an Alternative (Preservation Alternative), and

(5) conditions with the construction of an Alternative (Preservation Alternative) and cumulative projects.

A wind tunnel study was performed to investigate the pedestrian wind environment around the proposed project site. Pedestrian-level wind speeds were measured at selected points for the existing site and with the addition of the proposed project and Alternative in order to quantify wind impacts in public spaces near the site and predict the acceptability of wind conditions near the site. Because the Alternative changed only 1 of the four buildings, not all measurement points were re-measured but only those likely to be affected by the change.

II. METHODOLOGY

Wind Tunnel Facilities

The study was conducted in the Boundary Layer Wind Tunnel at the Department of Architecture, University of California, Berkeley. The interior dimensions of the wind tunnel duct are 5 feet high, seven feet wide and 45 feet long. The test area is 36 feet downwind of the inlet, with the fan downwind of the test area. Figures B-1 and B-2 show the construction and dimensions of the U.C. Berkeley wind tunnel.

Model and Boundary Layer

A scale model of the project site and the surrounding area was constructed. The model extended several blocks beyond the project boundaries in all directions. Several buildings that are under construction or approved, including the adjacent 524 Howard Street project, were included in the existing setting model. Two buildings that are currently in review, but not approved, were included in the cumulative case: 535 Mission and 554 Mission.

Wind obstructions located further away from the project site were considered part of the general roughness of the site, and were modeled as part of the characteristic atmospheric boundary layer in the wind tunnel.

Simulation of the boundary layer in the natural wind is achieved by turbulence generators placed upwind of the test section. This allows for adjustment in the wind characteristics to provide for different model scales and varying terrain upwind of the project.

Instrumentation

The velocity measurements in this study were made with a TSI model 1266 and model TSI 1210-20 hot wire anemometers. Prior to commencement of the experiments both the probes were calibrated. Subsequent side-by-side comparisons between the two probes indicated agreement to within 5%.

A total of 32 velocity measurement locations were selected for this study located along sidewalk areas and other public spaces adjacent to and near the project site. Two additional measurements were made in open space areas of the Preservation Alternative.

In accordance with the San Francisco Planning Code methodology for wind tunnel tests the model was tested for four wind directions: northwest, west-northwest, west and west-southwest.

Each measurement consisted of simultaneous readings from two anemometer probes, one

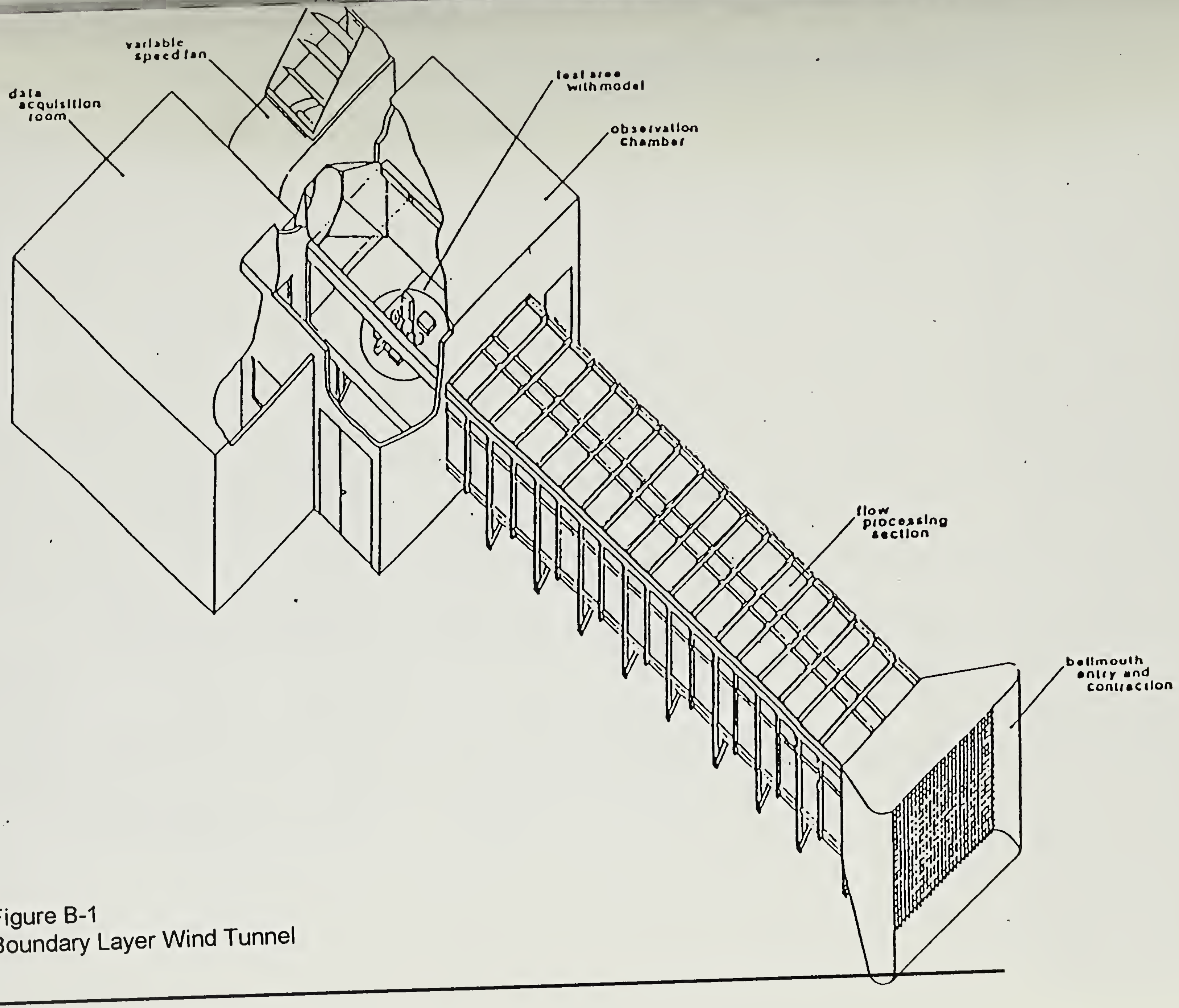


Figure B-1
Boundary Layer Wind Tunnel

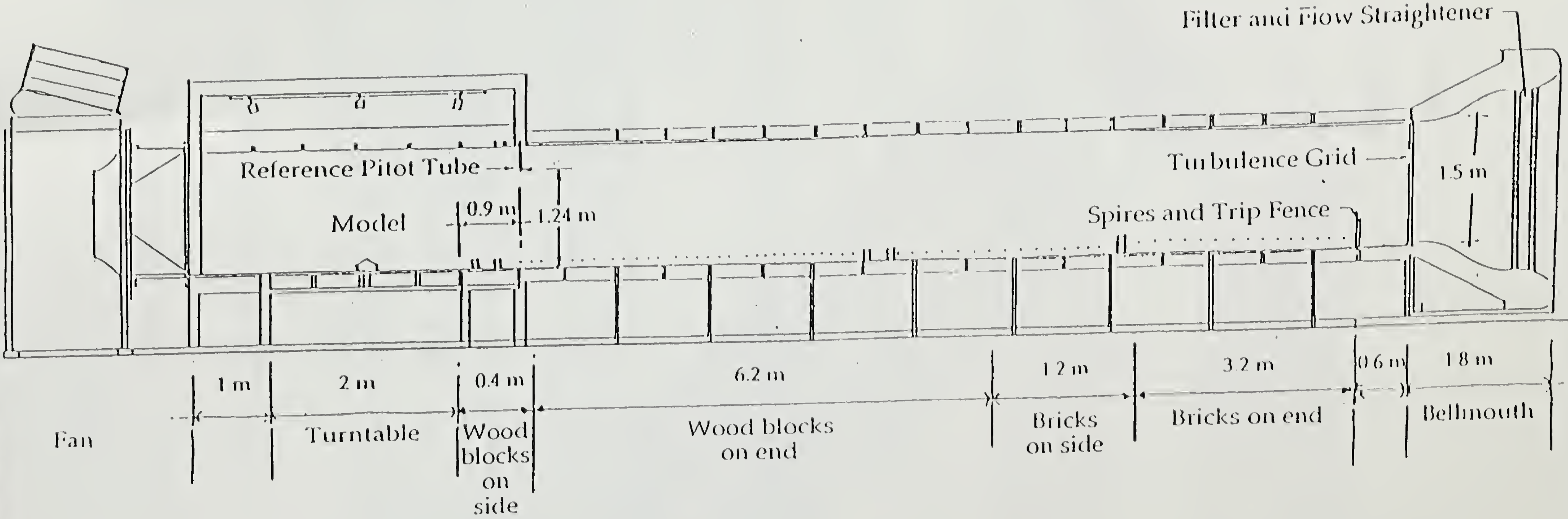


Figure B-2 Boundary Layer Wind Tunnel Configuration positioned at the desired pedestrian level location and the other at a stationary reference location above the wind tunnel floor. The axes of the probes were positioned vertically in all cases. The height of the reference sensor was selected to provide a stable characteristic reference velocity away from the influence of the building models and ground-level measurements. During each measurement the two velocity probes were sampled at a rate of 10 samples per second for a duration of 30 seconds. The collected data were analyzed to produce the quantities of interest: mean velocity, turbulence intensity, and equivalent wind speed.

III. CRITERIA AND HISTORICAL WIND RECORDS

Wind conditions partly determine pedestrian comfort on sidewalks and in other public areas. In downtown areas, high-rise buildings can redirect wind flows around buildings and divert winds downward to street level; each can result increased wind speed and turbulence at street level.

The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to four MPH have no noticeable effect on pedestrian comfort. With winds from four to eight MPH, wind is felt on the face. Winds from 8 to 13 MPH will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. For winds from 19 to 26 MPH, the force of the wind will be felt on the body. At 26 MPH to 34 MPH wind, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds over 34 MPH increase difficulty with balance and gusts can blow people over.[1]

The City of San Francisco Planning Code establishes wind criteria for C-3 Districts under Section 148 of the Planning Code. Section 148 of the Planning Code sets comfort levels of 7 MPH equivalent wind speed for public seating areas and 11 MPH equivalent wind speed for areas of substantial pedestrian use; these are not to be exceeded over 10% of the time between 7:00 a.m. and 6:00 p.m. year round. In addition to comfort criteria San Francisco Planning Code establishes a wind hazard criterion. The hazard criterion is set at an hourly averaged windspeed of 26 MPH, which is not to be exceeded more than once during a year.

Predictions of wind speed are based upon historical wind records from the U.S. Weather Bureau weather station atop the old Federal Building at 50 United Nations Plaza during the years 1945-1950. This data base, comprised of 32,795 hourly observations is of sufficient length to provide a reliable estimate of future climatic conditions in San Francisco.

Table B-1 shows that average wind speeds are greatest in the summer and least in the fall. Winds also exhibit a diurnal variation with the strongest winds occurring in the afternoon, and lightest winds occurring in the early morning.

Winds in San Francisco are most frequently from the west to northwest directions, reflecting the persistence of seabreezes. Wind direction is most variable in the winter. The approach of winter storms often results in southerly winds. Although not as frequent as westerly winds, these southerly winds are often strong. The strongest winds in San Francisco are typically from the south during the approach of a winter storm.[2]

Table B-1: Seasonal Frequency of Wind Direction and Average Speed (Knots)

	January		April		July		October		Year	
Direction	Freq. (%)	Av. Speed	Freq. (%)	Av. Speed	Freq. (%)	Av. Speed	Freq. (%)	Av. Speed	Freq. (%)	Av. Speed
N	12.5	7.9	2.2	11.0	0.3	6.0	3.3	6.6	5.0	7.2
NNE	1.3	5.6	0.7	6.1	0.3	6.8	0.7	6.6	0.8	6.0
NE	4.5	5.3	1.3	4.7	1.1	7.4	2.2	5.8	1.9	5.6
ENE	1.4	6.3	0.6	4.8	0.2	5.1	0.8	5.1	0.8	5.6
E	11.9	4.8	2.6	4.5	0.1	3.9	4.8	4.5	4.8	5.0
ESE	2.11	6.4	0.3	5.2	0.1	2.5	0.6	5.8	0.8	5.8
SE	9.1	6.4	2.4	7.8	0.2	5.0	3.7	6.6	4.2	6.8
SSE	2.8	5.6	0.3	3.8	0.1	3.0	1.3	9.0	1.2	6.4
S	6.7	5.0	4.2	7.1	1.1	4.9	4.5	7.5	4.1	6.4
SSW	1.0	4.8	0.4	4.1	0.1	3.0	1.7	12.8	0.9	8.6
SW	4.5	8.0	7.7	9.2	15.6	10.1	7.8	9.1	9.3	9.3
WSW	1.0	5.9	1.7	7.1	1.2	8.1	2.8	8.8	2.4	8.6
W	13.2	7.2	43.0	10.9	53.0	13.1	34.6	9.1	35.7	10.9
WNW	7.5	11.1	20.7	14.1	14.9	14.5	15.2	10.9	13.8	12.7
NW	11.5	7.7	9.3	10.7	10.7	11.4	10.8	8.5	10.0	9.7
NNW	1.2	5.7	0.6	10.8	0.6	8.5	0.5	7.5	0.7	8.3
CALM	7.7	---	2.1	---	0.3	---	4.6	---	3.7	—

IV. ANALYSIS

The San Francisco wind methodology is based on wind acceptability criteria defined in terms of "equivalent wind speed" (EWS). EWS denotes the mean hourly wind speed adjusted to account for the expected turbulence intensity or gustiness at the site. The wind speed limits in the Planning Code were developed with an inherent turbulence intensity of 15%. When the measured turbulence intensity at a point is greater than 15%, the equivalent wind speed is calculated by multiplying the mean velocity at the point by a weighting factor according to the following formula:

$$EWS = Vm\,(2*TI + 0.7)$$

where:

Vm = mean pedestrian-level wind speed
TI = turbulence intensity

For measured turbulence intensities less than 15%, EWS is taken to be equal to Vm.

Each wind-tunnel measurement results in a ratio that relates the speed of ground-level wind to the speed at the reference elevation, in this case the height of the Old San Francisco Federal Building. The frequency with which a particular wind velocity is exceeded at any test location is then calculated by using the measured wind-tunnel ratio and a specified ground speed to determine the corresponding reference wind speed for each direction. In general, this gives different reference speeds for each major directional component of the wind. The wind data for San Francisco are then used to calculate the percentage of the time that the specific ground-level wind speed is exceeded for each directional component. The sum of these is the total percentage of time that the specified ground-level wind speed is exceeded. A computer is used to calculate the total percentages for a series of wind speeds until the speed exceeded ten percent of the time is found, for each location.

The mean wind speeds are compared to the comfort criterion of 11 mph for pedestrian areas and 7 mph for setting areas, not to be exceeded more than 10 percent of the time during 7:00 a.m. - 6:00 p.m. Separate calculations evaluate compliance with the hazard criterion. The wind data observed at the Old San Francisco Federal Building are not full hour average speeds as specified by the Code, so it is necessary to adjust the equivalent speeds to obtain the hourly average of 26 mph.[3]

The windspeed that would be exceeded 10% of the time during the specified times at each measuring location is shown in Table B-2. The locations of measurement points are shown in Figure 3. All points except points 29-32 are pedestrian locations where the 11 MPH comfort criterion is applicable. Points 29-32 are located in the newly created plaza

Table B-2: Windspeed Exceeded 10% of the Time Between 7:00 a.m. and 6:00 p.m.

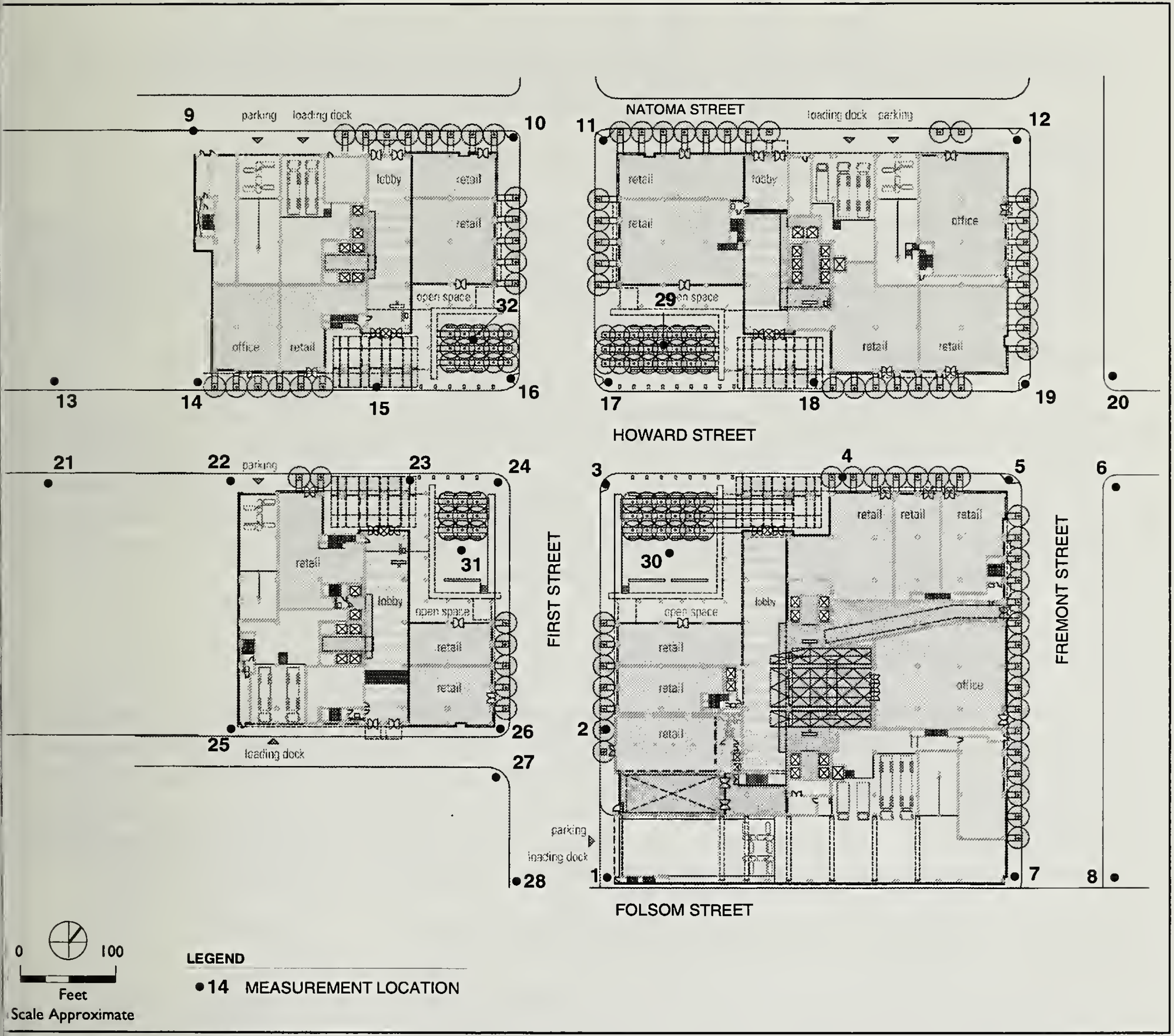
Measurement Location	Existing	Existing+ Project	Existing + Project+ Cumulative	Existing + Alternative	Existing + Alternative+ Cumulative
1	7	7	6	10	10
2	8	5	5	9	9
3	7	9	10	7	7
4	7	7	8	10	10
5	8	10	11	10	10
6	7	10	10	7	8
7	9	6	6	6	7
8	**14**	10	9	10	10
9	11	8	8	-	-
10	11	**13**	10	-	-
11	10	9	7	-	-
12	5	**12**	11	-	-
13	**14**	**14**	**14**	-	-
14	**12**	**12**	**13**	-	-
15	10	**12**	**13**	-	-
16	10	9	11	-	-
17	5	10	8	-	-
18	8	6	8	-	-
19	7	8	9	-	-
20	8	6	7	-	-
21	11	11	11	-	-
22	10	10	**12**	-	-
23	7	11	11	-	-

Measurements exceeding the comfort criterion are shown in **bold**.

Table B-2 (con't.):
Windspeed Exceeded 10% of the Time Between 7:00 a.m. and 6:00 p.m.(Continued)

Measurement Location	Existing	Existing+ Project	Existing + Project+ Cumulative	Existing + Alternative	Existing + Alternative+ Cumulative
24	8	11	9	-	-
25	7	11	**12**	-	-
26	3	4	5	-	-
27	**13**	10	9	-	-
28	5	4	4	-	-
29	-	6	6	-	-
30	-	6	5	-	-
31	-	4	3	-	-
32	-	7	5	-	-
33	-	-	-	4	4
34	-	-	-	7	6

Measurements exceeding the comfort criterion are shown in **bold**.



OURCE: EIP Associates, Donald Ballanti

FIRST AND HOWARD

FIGURE B-3: WIND STUDY MEASUREMENT LOCATIONS areas and are considered to be sitting areas subject to the 7 MPH comfort criterion. Points 33-34 (Figure 4) are located in open space within the Preservation Alternative.

Existing Conditions

No violations of the wind hazard code were measured for the existing scenario. The range of ground-level wind speeds was 3 to 14 mph. Exceedances of the pedestrian comfort criterion were found at 4 of the 28 sidewalk measurement locations for existing conditions.

Existing + Proposed Project

No violations of the wind hazard code were measured. The proposed project had a mixed impact on wind, with 12 points having increased wind, 10 points having decreased wind and 6 points having unchanged winds. The range of ground-level wind speeds was 4 to 14 mph. The number of ground-level locations exceeding the comfort criterion was increased to 5 of 28. Winds within the newly-created plazas (measurement points 29-32) all meet the sitting area comfort criterion of 7 MPH.

Existing + Proposed Project + Cumulative

No violations of the wind hazard code were measured. This scenario had a mixed impact on wind, with 15 points having increased wind, 10 points having decreased wind and 3 points having unchanged winds (with respect to existing conditions). The range of ground-level wind speeds was 4 to 14 mph. The number of ground-level locations exceeding the comfort criterion was increased to 5 of 28. Winds within the newly-created plazas (measurement points 29-32) all meet the sitting area comfort criterion of 7 MPH.

Existing + Alternative (Preservation Alternative)

Only measurement points 1-8 were measured for this scenario. These locations were deemed those most likely to have changed winds. This scenario results in somewhat higher winds along First Street adjacent the site (compared to the Proposed Project), but with no additional exceedances of the comfort criterion. Winds measured in the open spaces within this alternative meet both the comfort and seating area criteria.

Existing + Alternative (Preservation Alternative) + Cumulative

Only measurement points 1-8 were measured for this scenario. These locations were deemed those most likely to have changed winds. This scenario results in somewhat higher winds along First Street adjacent the site (compared to the Proposed Project), but with no additional exceedances of the comfort criterion. Winds measured in the open spaces within this alternative meet both the comfort and seating area criteria.

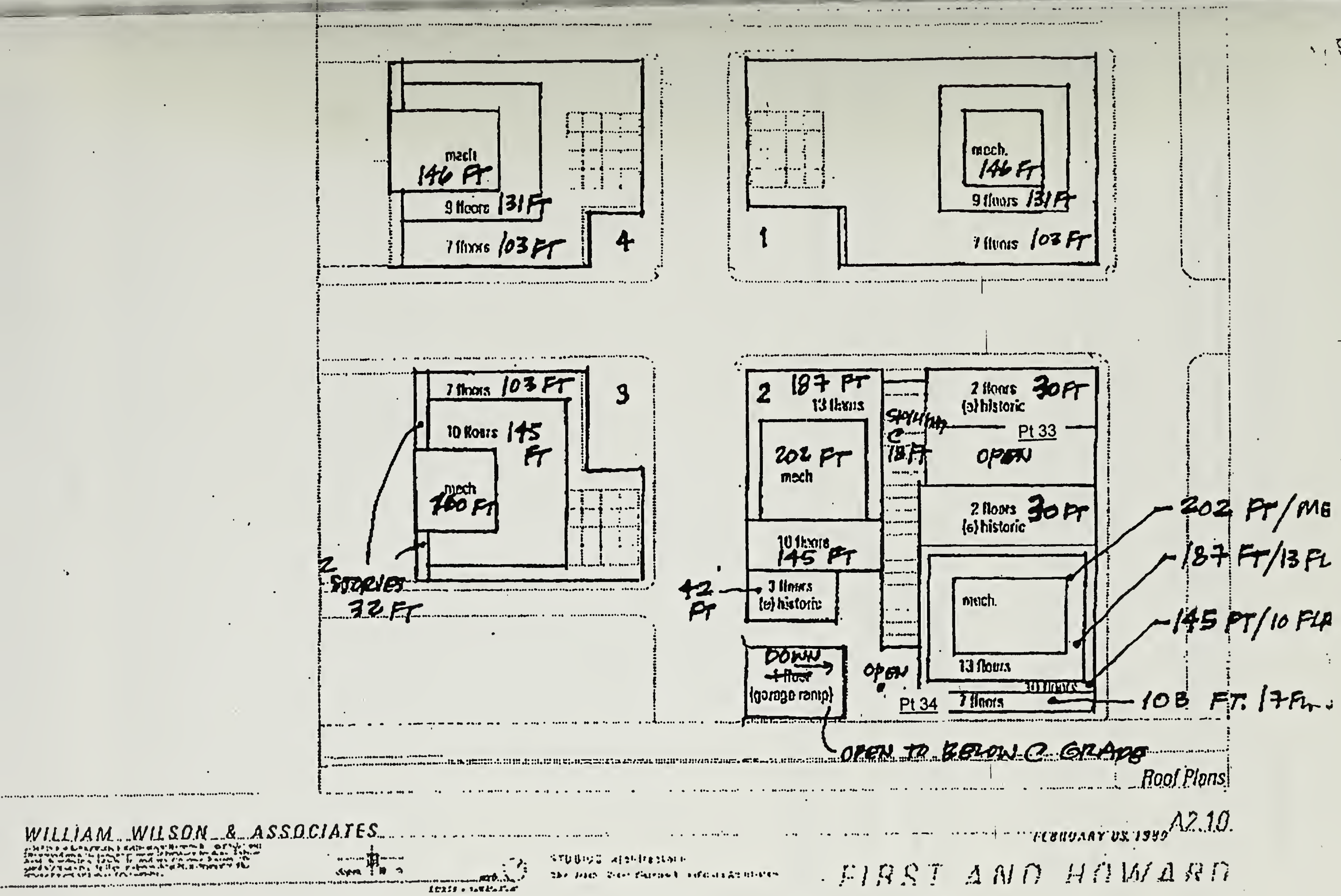


Figure 4: Interior Wind Study Measurement Points, Historic Preservation Alternative - Pt 33 and Pt 34

V. MITIGATION

Exceedances of the hazard wind criterion would be considered a significant adverse impact requiring appropriate mitigation. Since no exceedances of the hazard criterion were found for any of the scenarios tested, mitigation is not required.

All measurements within the newly-created plaza areas would meet the San Francisco Planning Code comfort criterion for sitting areas. The model tested did not include street trees, benches or any other elements that might reduce winds. These street-level amenities would all act to reduce winds further.

1. Edward Arens, Designing for an Acceptable Wind Environment, Transportation Engineering Journal, March 1981.

2. E. Jan Null, Climate of San Francisco, Report No. NOAA-TM-NWS WR-126, 1978.

3. Arens, E., "Designing for Acceptable Wind Environment," Transactions Engineering Journal, ASCE 107, No. TE 2, 1981, pp. 127-141.

APPENDIX C. TRANSPORTATION

TABLE C.1
STREETS IN THE FIRST & HOWARD STREETS PROJECT VICINITY

	General Plan Designations					
Street	**Transit/a/**	**Vehicular/b/**	**Pedestrian/c/**	**Bicycle/d/**	**No. of Lanes**	**On-street Parking**
Mission Street	Transit preferential	Major Arterial	Neighborhood Pedestrian Street	---	Four: two-way	Provided along both curbs except between 4.00 to 6.00 PM
Folsom Street	---	Major Arterial: Embarcadero to 13th street	---	Citywide Bicycle Route (Class II): Embarcadero to South Van Ness Avenue	Four: primarily one-way (eastbound) Embarcadero and Main Street: two-way	Provided along both curbs
Harrison Street	---	Major Arterial: Embarcadero to 13th street	---	---	West of third street: five lanes, one-way westbound Second and First: three lanes, two-way Other streets between Third and Embarcadero: Four lanes, two-way	Provided on both sides of the street
Essex Street	---	Major Arterial	---	---	Three: two-way	On-street parking in northbound direction
Beale Street	---	Major Arterial: north of Howard	---	---	Three: one-way southbound	Metered parking along both curbs
Main Street	---	Major Arterial: north of Howard	---	---	Three: primarily one-way (northbound) Folsom and Harrison: two-way	Metered parking along both curbs except between Folsom and Howard
Second Street	Secondary Transit Street: Harrison and Howard	---	Neighborhood Commercial Street	Citywide Bicycle Program: Route #11 (Class III)	Four: two-way	Metered parking along both curbs
Third Street	Transit Important Street	Major Arterial	Citywide pedestrian network: Market and Harrison	---	Four to six: one-way northbound	Metered parking along both curbs except from 7.00 to 9.00 AM and 3.00 to 6.00 PM

Notes:
a. City and County of San Francisco *General Plan,* Transportation Element (Transportation Element), July 1995, Map 9 p. 1.4.42
b. Transportation Element, Map 6, p. 1.4.32
c. Transportation Element, Map 11, p. 1.4.55
d. Transportation Element, Map 13, p. 1.4.59. Class II bicycle routes are separately striped lanes for bicycles; Class III bicycle routes are signed but not striped

Source: Korve Engineering, EIP Associates

SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS BASED ON DELAY

Level of Service	Stopped Delay (sec/veh)	Typical Traffic Condition
A	≤ 5.0	**Insignificant Delays:** Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
B	5.1 - 15.0	**Minimal Delays:** Generally good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay. Drivers begin to feel restricted.
C	15.1 - 25.0	**Acceptable Delays:** Fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear, though many still pass through the intersection without stopping. Most drivers feel somewhat restricted.
D	25.1 - 40.0	**Tolerable Delays:** The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. Queues may develop but dissipate rapidly, without excessive delays.
E	40.1 - 60.0	**Significant Delays:** Considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles and long queues of vehicles form upstream.
F	> 60.0	**Excessive Delays:** Considered to be unacceptable to most drivers. Often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay levels. Queues may block upstream intersections.

Sources: *Highway Capacity Manual*, Special Report No. 209, Third Edition, Transportation Research Board, Washington, D.C. 1985 (Updated 1994); Korve Engineering, Inc.

TWO-WAY STOP CONTROLLED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Average Total Delay (sec/veh)	Typical Traffic Condition
A	0 - 5	Little or no delay.
B	5.1 - 10	Short traffic delays.
C	10.1 - 20	Average traffic delays.
D	20.1 - 30	Long traffic delays.
E	30.1 - 45	Very long traffic delays.
F	>45	*

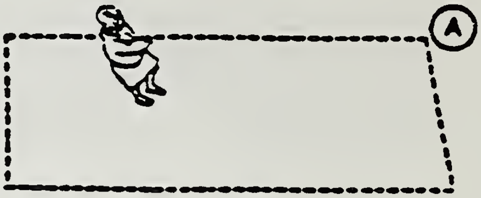
* Level of Service F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches.

Source: *Highway Capacity Manual*, Special Report No. 209, Third Edition, Transportation Research Board, Washington, D.C. 1985 (Updated 1994); Korve Engineering, Inc.

LEVEL OF SERVICE A

Pedestrian Space: ≥ 130 sq ft/ped Flow Rate: ≤ 2 ped/min/ft

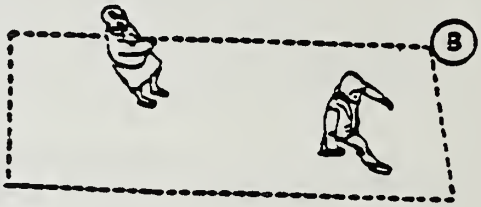
At walkway LOS A, pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.



LEVEL OF SERVICE B

Pedestrian Space: ≥ 40 sq ft/ped Flow Rate: ≤ 7 ped/min/ft

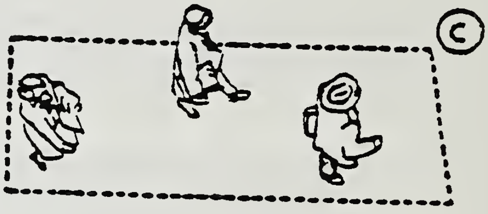
At LOS B, sufficient area is provided to allow pedestrians to freely select walking speeds, to bypass other pedestrians, and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians, and to respond to their presence in the selection of walking path.



LEVEL OF SERVICE C

Pedestrian Space: ≥ 24 sq ft/ped Flow Rate: ≤ 10 ped/min/ft

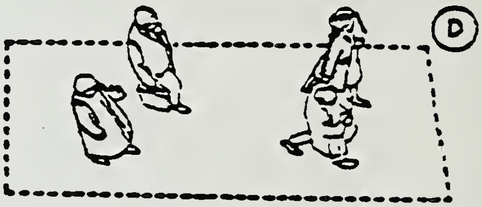
At LOS C, sufficient space is available to select normal walking speeds, and to bypass other pedestrians in primarily unidirectional streams. Where reverse-direction or crossing movements exist, minor conflicts will occur, and speeds and volume will be somewhat lower.



LEVEL OF SERVICE D

Pedestrian Space: ≥ 15 sq ft/ped Flow Rate: ≤ 15 ped/min/ft

At LOS D, freedom to select individual walking speed and to bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflict is high, and its avoidance requires frequent changes in speed and position. The LOS provides reasonably fluid flow; however, considerable friction and interaction between pedestrians is likely to occur.



LEVEL OF SERVICE E

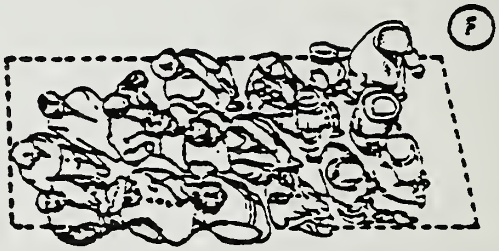
Pedestrian Space: ≥ 6 sq ft/ped Flow Rate: ≤ 25 ped/min/ft

At LOS E, virtually all pedestrians would have their normal walking speed restricted, requiring frequent adjustment of gait. At the lower range of this LOS, forward movement is possible only by "shuffling." Insufficient space is provided for passing of slower pedestrians. Cross- or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity, with resulting stoppages and interruptions to flow.

LEVEL OF SERVICE F

Pedestrian Space: ≤ 6 sq ft/ped Flow Rate: variable

At LOS F, all walking speeds are severely restricted, and forward progress is made only by "shuffling." There is frequent, unavoidable contact with other pedestrians. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams.



SOURCE: Highway Capacity Manual, Special report 209, Third Edition
Chapter 13, TRB, 1994

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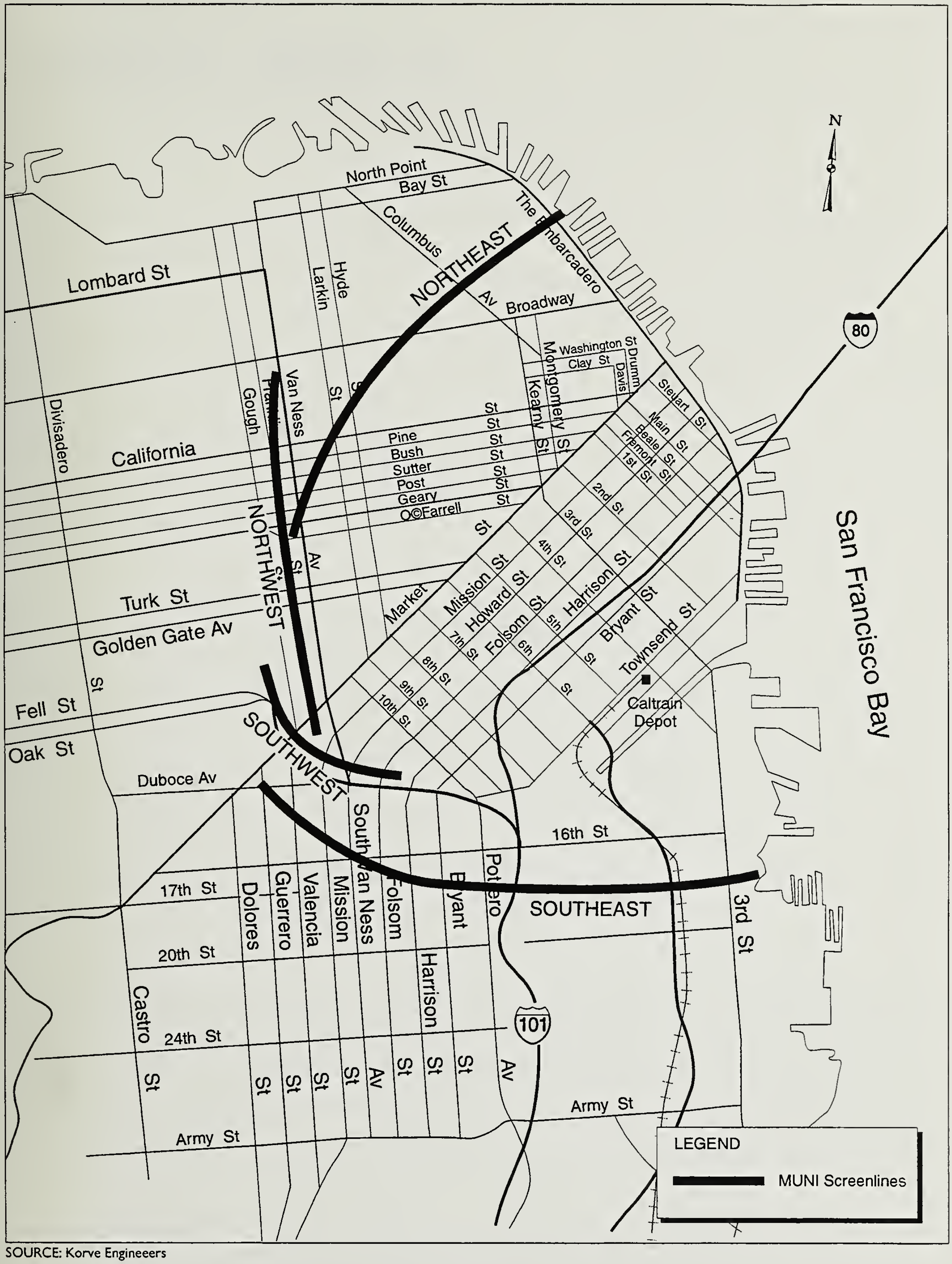
FIGURE C-1: WALKWAY LEVELS OF SERVICE



SOURCE: Korve Engineeers

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FIRST AND HOWARD

FIGURE C-2: SAN FRANCISCO TRANSIT SCREENLINES

APPENDIX D. AIR QUALITY

APPENDIX D. AIR QUALITY

This appendix describes air pollutants, summarizes their health effects, and shows the applicable ambient air quality standards.

Criteria air pollutants refer to a group of pollutants for which regulatory agencies have adopted federal, state, or regional ambient air quality standards and pollution reduction plans. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead. Reactive organic gases (ROG) and oxides of nitrogen (NO_x) are also regulated as precursor contaminants that react to form ozone.

Toxic air contaminants refer to a category of air pollutants that pose a present or potential hazard to human health, but which tend to have more localized impacts than criteria air pollutants. The Air Quality analysis addresses routinely-emitted toxic air contaminants.

Table D.1 shows the potential human health effects of the criteria air pollutants, and Table D.2 shows the federal and state ambient air quality standards for these pollutants.

TABLE D.1
HEALTH EFFECTS SUMMARY OF THE MAJOR CRITERIA AIR POLLUTANTS

Air Pollutant	Adverse Effects
Ozone	Eye irritation. Respiratory function impairment.
Carbon Monoxide	Impairment of oxygen transport in the bloodstream, increase of carboxyhemoglobin. Aggravation of cardiovascular disease. Impairment of central nervous system function. Fatigue, headache, confusion and dizziness. Can be fatal in the case of very high concentrations in enclosed places.
Nitrogen Dioxide	Risk of acute and chronic respiratory illness.
Sulfur Dioxide	Aggravation of chronic obstruction lung disease. Increased risk of acute and chronic respiratory illness.
Particulate Matter (PM_{10})	Increased risk of chronic respiratory illness with long exposure. Altered lung function in children. With SO_2, may produce acute illness. May be inhaled and possibly lodge in and/or irritate the lungs.
Fine Particulate Matter ($PM_{2.5}$)	May be inhaled and possibly lodge in and/or irritate the lungs.
Lead (Pb)	Prolonged exposure may cause anemia, kidney disease, and in severe cases, neuromuscular disorder and neurologic dysfunction.

Source: Bay Area Air Quality Management District Air Quality Handbook, 1993; Zannetti, Paolo, *Air Pollution Modeling*, 1990.

TABLE D.2
FEDERAL AND STATE AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standard/a/	Federal Standard/b/
Ozone	1-hour	0.09 ppm	0.12 ppm
	8-hour	—	0.08 ppm
Carbon Monoxide	1-hour	20.00 ppm	35.00 ppm
	8-hour	9.00 ppm	9.00 ppm
Nitrogen Dioxide	1-hour	0.25 ppm	—
	Annual Average	—	0.053 ppm
Sulfur Dioxide	1-hour	0.25 ppm	—
	3-hour	—	0.5 ppm
	24-hour	0.04 ppm	0.14 ppm
	Annual Average	—	0.03 ppm
Particulate Matter (PM_{10})	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	Annual Geometric Mean	30 $\mu g/m^3$	—
	Annual Arithmetic Mean	—	50 $\mu g/m^3$
Fine Particulate Matter ($PM_{2.5}$)	24-hour	—	65 $\mu g/m^3$
	Annual Arithmetic Mean	—	15 $\mu g/m^3$
Lead (Pb)	30-day Average	1.5 $\mu g/m^3$	—
	Calendar Quarter	—	1.5 $\mu g/m^3$

Notes:

ppm = parts per million by volume

$\mu g/m^3$ = micrograms per cubic meter

— = No standard exists for this category

a. California standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter (PM_{10}) are values that are not to be exceeded.

b. The form of the federal standards (i.e., the statistical method of how the standard is applied to real-world data) varies from pollutant to pollutant. For further information, 40 CFR Part 50 includes the relevant form for each federal standard.

Source: EIP Associates.

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